"Big Business" Methods to Aid Fruit Marketing

In These Days of Large Undertakings the Small Unit Is at a Disadvantage. Hence the Organization of This "Super-Co-operative" with Fifty Million Dollars Capital, to Function as the National Sales Outlet for the Local Co-operatives Packing Fruits and Vegetables.

By William M. Jardine

Former United States Secretary of Agriculture

THE "United Growers of America" is a national sales and service organization, owned, managed and controlled by American farmers who grow fruits and vegetables. Perhaps it could properly be called a super-co-operative association, since it affords direct representation to the several hundred local co-operatives dealing in these commodities.

As the individual local co-operative is not large enough to maintain sales agencies in all of the domestic and foreign markets, the United Growers will furnish to the local co-operative the eyes, ears and skilled salesmanship, as well as the necessary personal contacts, in the big marketing centers where prices are determined. As this unified representation will secure better distribution and eliminate much destructive and wasteful competition, both in the shipping districts and in the destination markets, it will ultimately prevent market gluts; and because of a national system of traffic management, enormous sums now going to the carriers for rehauling shipments from the big marketing centers toward points where the shipments originated will be saved for the growers of the local co-operatives. Add to the foregoing, expert counsel in all the stages from planting time until the harvest is shipped, and a central agency for providing production credit at the beginning of the crop season, and the chief functions of the United Growers have been enumerated.

Seek Reduction in Distributing Costs

On account of the fact that less than one-third of the dollar spent by the consumer for fruits and vegetables goes to the farmer, this organization was founded by men who shared the belief that one great need of these farmers was a national organization capable of reducing distribution costs, marketing gluts, speculation, etc., and thereby assure to the grower a larger percentage of the consumer's dollar. To that end every facility of the United Growers will be directed, with the hope that the local co-operatives will be led out of impoverished conditions to the efficient and prosperous basis of big business.

The United Growers will render the members of local co-operatives the same quality of service received by members of a national co-operative, for this organization is a federation of many co-operatives. All are pooling their interests to reduce marketing costs. For example, we have in Florida a number of co-operatives, handling such commodities as celery in one case and tomatoes in another. In other parts of the State are co-operatives handling Satsuma oranges or potatoes, all of which must be sold within a relatively short period of the year. These locals will continue to maintain their individual set-ups, but the United Growers will be their national sales organization.

Year-Around Sales Service

Every market day in the year will find the United Growers directing the crops of its local co-operatives to the markets of strongest demand. Florida products, for example, come on the market earlier than the same kind of products produced in States farther north. As the harvest season shifts northward and to other sections of the country, the United Growers will handle these crops as they are ready for the market. They will be marketing crops for growers in some parts of the United States on every market day in the year. The agents of the federated organizations will not be selling just a single commodity, but a group of commodities.

There is a fundamental difference between the United Growers and a co-operative handling only one commodity, but both types are necessary. In the case of the citrus fruit producers of California, the organization deals almost exclusively in a single commodity, grown in one region and almost entirely in one State. Their success is possible because they have varieties produced in large volume which ripen at different times of the year, hence they have oranges to sell from January until December. By reason of this fortunate state of affairs they are able to maintain around that one commodity a national sales organization of far-flung proportions without involving the growers in exorbitant expense. There are, however, only a few commodities produced in the United States to which this type of organization, in the light of present experience, would seem to be adapted.

The United Growers, as I have said before, is organized to sell for local co-operatives producing and handling commodities in volume ranging from a few hundred cars to a thousand or more annually but which cannot afford to maintain sales agencies in the important market places of the nation. If they are to be provided with the same service and afford the same advantages as citrus is doing for its growers, it must be done with such an organization as the United Growers.

A Succession of Commodities

I do not know if I have made my explanation clear; but in summing it up there are between 200 and 300 good sized co-operatives in the United States packing fruits and vegetables, many of which handle but a single commodity, such as celery in Florida, tomatoes in Mississippi, strawberries in Missouri, apples in Oregon, or grapes in Michigan. United Growers takes these crops, produced and assembled by the locals, and sells them in the domestic and export markets. Thus is provided a continuity of marketing service, reaching from producer to the points of consumption. And since many locals have pooled the marketing of their tonnage, the overhead of the United Growers is reduced, competent management is provided, credits otherwise beyond the reach of the locals are obtained and a new and infinitely greater bargaining power is reflected all the way back to the individual farmer.

In the aggregate, large volumes of tomatoes, melons, etc., will be handled through United Growers; gluts and wasteful competition will be reduced; distance and time will be shortened; fruits and vegetables will be delivered in fresher and more wholesome condition and at a better price for the producer. A series of savings will be effected all along the line and the aggregate saving will also be reflected to the advantage of the consumer since he will get a more wholesome and tasteful product at a reasonable price.

Marketing Service from Farm to Market

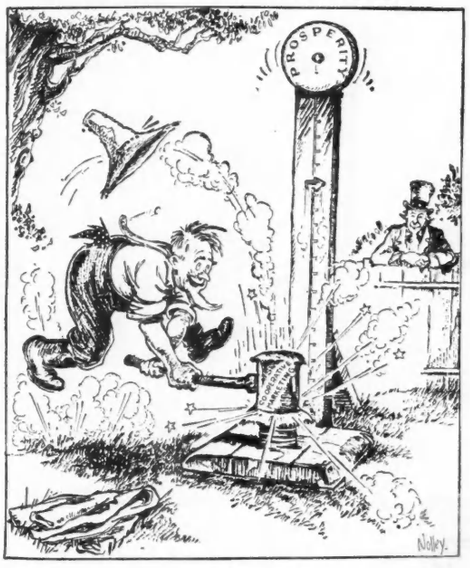
The United Growers will provide a type of service to the grower which is not now available through local co-operatives. Facilities are provided for handling products in an even, orderly flow and with maximum distribution, all the way from the farm and orchard up to and including the destination markets, the auctions and the foreign markets. At the present time local co-operatives sell their commodities to brokers, speculators, commission houses, etc., many of whom are in sharp competition with each other. This is the system which has grown up in our country in the last quarter of a century and every year is becoming more complicated. It is expensive, it is uneconomic and it is antiquated. I do not say that it is the fault of any particular group of men; it has just simply grown up and it is high time that a better system be substituted, as it is out of line with modern merchandising methods and at wide variance with the practices employed in other lines of business.

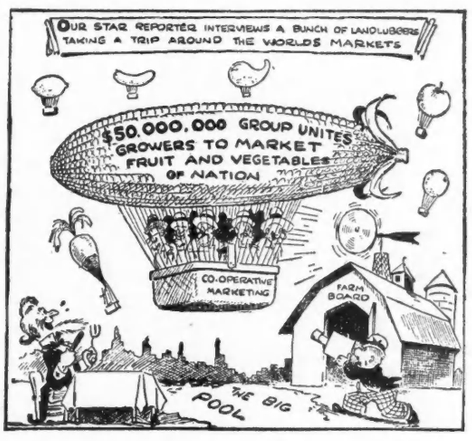
Other industries are merging small units into bigger combinations and the large sized combinations into even greater combinations, because they have found it practicable to do so. Mergers are a part of the spirit of the age because they have been found to be profitable. More money can be made and the price of commodities can be reduced to the consumer through decreased overhead expense. United Growers represents big business for the fruit and vegetable farmers, because it represents a large number of growers who produce a large volume of business, marketing through one overhead sales agency. This is applying to agriculture the same methods found to be advantageous by those in other big commercial fields.

Ample Finances Required

It would scarcely be possible for the government through the Federal Farm Board, despite its $500,000,000 and all of its power, to construct a marketing system, owned and controlled by the producers, unless money outside of governmental sources is made available to the growers. It costs a lot of money to carry an acre of cabbage, tomatoes, celery or any other vegetable from the time of preparing the (*To Page* 16)

THE BLOW THAT OUGHT TO RING THE BELL




OUR STAR REPORTER INTERVIEWS A BUNCH OF LANDLUBBERS TAKING A TRIP AROUND THE WORLDS MARKETS
$50,000,000 GROUP UNITES GROWERS TO MARKET FRUIT AND VEGETABLES OF NATION
CO-OPERATIVE MARKETING
FARM BOARD
THE BIG POOL

THE NEW FIFTY MILLION DOLLAR BABY

As Viewed by the Dailies

The announcement of the organization of United Growers of America was well received by the Daily Press of the country, and brought forth many editorial expressions of approval. Three representative cartoons are reproduced herewith: Above, from Herald-Tribune, New York City. Middle, from New York Journal. Lower, from Providence (R. I.) Journal. (Copyrighted. Used by Permission.)

How Bordeaux Mixture Acts As an Insecticide

By DWIGHT M. DE LONG
Professor of Entomology, Ohio State University

What Investigators Have Learned About the Solubility of Copper in Bordeaux, Its Penetration Into and Its Effect on the Leaf Tissue, and the Action of Copper in Solution in the Plant Juices on Certain Types of Sucking Insects.

MOST FRUIT GROWERS are probably aware of the fact that Bordeaux mixture was first discovered accidentally as a fungicide by Millardet in 1882 in the vineyards of France. It had been placed there to prevent the picking of the grapes by wayfarers passing along the roadside where the grapes were growing. Millardet found incidentally that the downy mildew destroyed all the grapes except those so treated. This was the beginning of many problems of research for the control of both plant diseases and insects by this spray material. All of the early work pertained to the value of this material as a fungicide or problems relative to its action upon or through leaf tissues. Only in recent years has it been investigated as an insecticide and there are many questions relative to its action upon insects and plant tissues which can be answered only in a vague way at the present time.

The first series of investigations were carried on extensively by Millardet and Gayon immediately after the discovery of Bordeaux as a fungicide. They came to the conclusion after long study that copper deposited on the leaf in very dilute solution was absorbed by the leaf in small quantity, but very rapidly. According to these investigators, it is fixed by the cuticle of the leaf but also penetrates deeply into the leaf tissue. Their work left unsolved many problems which have stimulated research by several investigators in the past forty-five years. The large majority of this work has pertained to the question of fungicidal value and plant injury and it was not until about 1920 that this material was even considered as a possible insecticide. Only a few of the important views or conclusions reached by these investigators which are important as a probable background for the discussion of Bordeaux as an insecticide will be given here.

Practically all of these investigators have agreed that Bordeaux contains no soluble copper at the time of application of the spray and that as it is spread upon the leaves it is insoluble or very slowly soluble. In this form it has no fungicidal power and recent investigations by the writer have shown that it apparently has no insecticidal value either in this form. In order to secure defensive action there must be moisture carrying a certain proportion of copper in solution. Observations and experiments support the idea that carbon dioxide has a solvent action on copper hydroxide but it is thought that other agencies may cause this condition either alone or in conjunction with carbon dioxide.

Some Probable Solvents of Copper

Swingle in 1896 stated, "It is possible that the drops of rain or dew standing for some time on the leaves or other parts of plants may absorb from superficial cells, sugar or other substances that may serve to increase the solubility of the copper." Clark in 1902 also found evidence to indicate that the plant was active in dissolving the copper hydroxide.

Crandall in 1909 found, judging from the amount of copper in solution, that meteoric waters possess solvent powers that are not found in water artificially applied.

Bain in 1902 held the view that the glandular surfaces of the teeth increased solubility and consequent marginal injury due to solubility of copper hydroxide.

Shander in 1904 came to the conclusion that the plant secretes an acid which has solvent action on copper hydroxide and this solution is taken up by the leaves.

Clark further states, "The epidermis of leaves although protected by a cuticle is well known to be more or less permeable to the dissolved substances occurring in the cell sap particularly along the union of the epidermal cells. When the dew is on the leaf we have two solutions—the dew drop without and the cell sap within separated by a more or less permeable membrane. These conditions must result in the exosmosis of at least some of the contents of the cell sap, which, coming in contact with the copper hydroxide adhering to the leaf surface, causes more or less of it to pass into solution."

These observations would indicate that atmospheric conditions, meteoric waters, carbon dioxide or other chemical atmospheric materials and leaf secretions may all be concerned in the solution of copper. But all agree that although insoluble when applied to the leaves it is rendered soluble.

Effects of Copper on Leaf Tissues

As regards the absorption of soluble copper into the leaf, copper has never been found in sufficient quantity in leaf tissues to test it, even when present in sufficient quantities to injure leaves. In spite of this fact it is known that Bordeaux spray produces a stimulating effect upon certain types of leaves and in many cases causes severe plant injury.

There are differences of opinion regarding the manner in which copper in solution in leaf tissues enters or affects the protoplasm, killing certain areas of the leaf in some cases and stimulating them apparently in other instances. The common view is that water with copper in solution penetrates the cells by osmosis. This view was first advanced by Millardet.

On the other hand Rumm holds the view that poisonous action results from contact without penetration. He speaks of it as chemotactic action, ascribed to electrical attraction between cell protoplasm and the coating of Bordeaux deposited on the leaves. This has been supported somewhat by experimental work which has shown that copper would injure leaves with broken or pricked surfaces at dilutions as great as one in twenty-five thousand parts of water. This condition must be recognized however as abnormal. It is possible that accumulation occurs and Crandall states that "If accumulation occurs it can hardly apply to other than very minute quantities, unless it be through chemical changes which form new compounds, innocuous to the protoplasm of living cells."

Aderhold and Shander attribute common injurious effects to accumulation of copper in quantity sufficient to kill the cells. One of the most interesting discoveries was that made by Rumm who found that the deeper color of Bordeaux sprayed leaves is caused by an increase in the number of chlorophyll grains. In keeping with this he found a decided increase in the thickness of sprayed leaves. This is a physiological change and undoubtedly the stimulating effect which has caused increases in yields of certain crops, especially since increased chlorophyll causes increased sugar manufacture and this is stored in the fruit.

Rumm explains this phenomena by stating that "Either remains of the sprayed salts are taken up through the epidermis by the leaf, resulting in chemical changes which appear sooner or later in the above considered physiological changes or the materials only adhere firmly to the cuticle, remain on the whole unchanged and act only by their presence, that is, exert an influence on the life activities of the plant."

This work was all performed before Bordeaux was even considered of value as a method of insect control but these experimental results may be important in explaining some of the results of more recent work upon how it acts as an insecticide.

In this experiment the upper surface only of the leaf was sprayed with Bordeaux, care being taken that none touched the underside. Leafhoppers were confined within the glass cell, permitting them access to the underside of the leaf, which was clean. Feeding on this unsprayed surface resulted, within two or three days, in the death of the insects preceded by typical symptoms of copper poisoning. This interesting experiment indicated that copper from the Bordeaux on the upper side penetrated the leaf tissue, entering into solution with the plant juices, rendering them toxic to the leafhoppers.

Bordeaux as an Insecticide

For several years Bordeaux has been classified as a repellent to certain types of insects and recommended in that capacity. It was not until 1922, therefore, that Bordeaux was found to have insecticidal properties and to function as an insecticide for the potato leaf hopper. This work was performed by Fenton and Hartzell working in Iowa, but they made no detailed study to find in what way Bordeaux functioned as an insecticide. Several workers have used Bordeaux since the observations of these men, to ascertain field control but none of them have apparently gone into this question of how it really kills.

In 1926 and 1927 this question was brought more forcibly to the writer while carrying on comparative field tests with a variety of insecticides for leafhopper control. It was noticed that insecticides like pyrethrum extracts killed the leafhoppers within a few hours after spraying. These sprays however had no effect upon the young leafhoppers which hatched a few hours after treatment; consequently a new leafhopper population was soon established upon these treated plants. In experiments with Bordeaux mixture, on the other hand, it was observed that there was no immediate effect upon the leafhoppers, for at the end of twenty-four hours after spraying, the leafhoppers were as abundant as at the time of application. After this period, however, they gradually died until at the end of three or four days, all had succumbed. Observations a week later showed no new leafhopper population in view of the fact that the newly hatched nymphs died soon after hatching and this continued over a period of several days after application of the Bordeaux.

This spray for the control of the leafhopper was especially interesting since it did not seem to function as a normal contact insecticide but performed a delayed but certain killing of the individuals present and a continued lethal action of the material for a considerable length of time after application, which effectively controls the individuals hatching after treatment. In view of these observations and in an attempt to answer this question, in 1928 the writer carried out a series of detailed experiments in order to ascer- (*To Page* 17)

BETTER ORCHARD SERVICE With EQUIPMENT that "FITS" the JOB

This Ex-Shoe Clerk Built Up a Profitable Business Taking Care of Small Orchards with His Modern Power Equipment. This Type of Contract Orchard Care Presents a New Opportunity to Young Men with Horticultural Training and Equipment

By F. H. HIGGINS

MILLIONAIRES or Japanese truck gardeners, the world demands service for its money and is willing to pay for efficiency. That's the lesson A. M. Caspari, ex-shoe clerk of Milwaukee, learned in the building up of a unique business that will this year gross him $80,000 and is rapidly expanding to take care of the neighbors of satisfied customers who have watched his unique orchard care business.

Caspari is succeeding financially at a game at which older and more experienced men went broke. However, he took it out of the "game" class and made it a business. Shoes or orange groves, you must give a service that builds confidence in your product, he found.

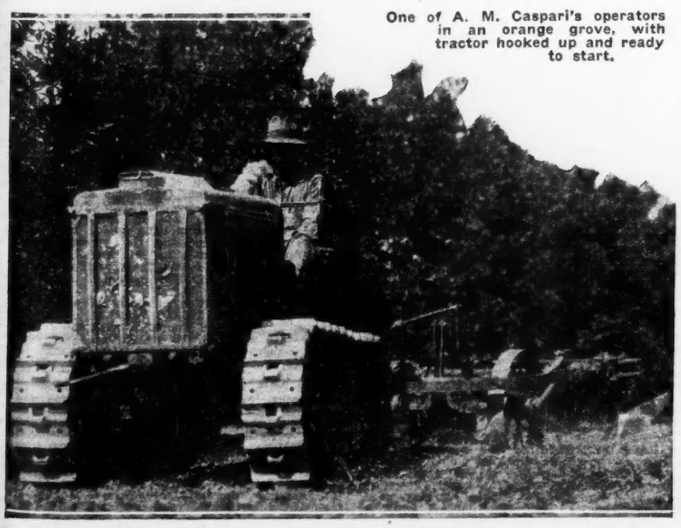
Salesmanship, Service and Knowledge

There's nothing mysterious about building such a business as taking care of little 10-acre orange groves better and cheaper than anyone else can do it, according to the tall boy from Milwaukee. He first figured out the best way to do this orchard work and then equipped himself to do it on a business basis. That meant salesmanship and service.

Also, knowledge of the business of raising oranges had to be gained from hard experience. Growing oranges in California for America's breakfast tables sounded more romantic than kneeling all day unlacing dirty shoes that carried the dust, mud and snow of a busy city's outdoors. That's self evident, but only impetuous youth or irresponsible older people leave jobs with sure pay envelopes to follow the glowing pictures of suave real estate men and railroad literature.

But Caspari wanted to see for himself. Perhaps the blood of ancestors of the Columbus type surged in his veins, impelling him to seek fortune toward the setting sun. Anyway, whatever the compelling force, Caspari presently found himself in the midst of orange groves, no longer a shoe clerk with a weekly salary that would keep him eating regularly. Also, he found that a citrus grove is much like a factory: you have to keep pouring labor and material into it to get out the finished product. After a crop has grown it must be harvested and marketed, and, if one proposes to stay in the business the product must be marketed at a profit.

"Farm relief," so much in the public print since the post-war deflation, had to be met and solved by our hero. He solved it, too, and in that solution found his future and a pleasant profitable business that keeps him among orange blossoms and fruit from one year's end to another.



One of A. M. Caspari's operators in an orange grove, with tractor hooked up and ready to start.

The first contact with Caspari gives you an insight into his success. He meets his public pleasantly and is anxious to give his best service. Fitting shoes to feet of diverse types, some of them previously misfitted, had taught him some valuable lessons. Farmers are no different from the human nature standpoint than city people. They've been frequently oversold, or sold the wrong thing. Hence, when they are sold right with a pleasant approach by a pleasing personality trying to give them "a correct fit" they appreciate it—and come back for more and more.

The care and tillage of the small orange orchards of about 10 acres which dot Southern California, particularly within 50 miles of Los Angeles, has proved a source of grief to their owners. When the owner of a little orchard attempts to handle the work himself, the investment in machinery mounts too high. The use of horses has proved impractical and expensive. The change from horse to tractor in citrus growing has been rapid. The citrus industry is now practically horseless.

Contract orchard care, as it is usually called, developed along neighbor cooperation lines first. A farmer with a complete outfit of equipment would take on the care of one or two neighbors' orchards. Then he would add another or so to keep his equipment and men busy, going outside the citrus areas to do beet, bean, potato, alfalfa and other work to fill out the year.

The past twenty years has given orange growers all the experience of the farm tractor industry, as the farm tractor has "grown up" in the citrus groves. Every variety and model turned out during the past two decades has had a trial at citrus production. Hence, the orange growers have learned a lot about tractors and tractor operators.

A Costly Initial Mistake

Caspari arrived in California and bought into the citrus game just about the period when the tractor question was about solved, and the industry was settling down to the use of the type best adapted to orchard work.

But in his initial purchase of equipment Caspari made the mistake of picking up an old, worn-out tractor because it was "cheap," buying from an orchard contractor who was going out of business. As a result he not only paid out much of his income for new parts, but spent many of his nights rebuilding his old tractor. But let us have Mr. Caspari tell the story in his own way:

"I was forced into the tractor contractor game by some of my neighbors. When I bought my ranch I found that it needed some pretty deep work done at once, it having been cared for with teams for several years. So I bought a rebuilt tractor of a well known make and several very good and efficient implements. After getting my own orchard into pretty fair shape I was asked to take up some deep cultivating upon several of my neighbors' groves.

"The year following the purchase of my first rebuilt tractor I was compelled to purchase a second one and hire a man to operate it. Then the demands upon my time became so great I hired another man to run my first tractor and between looking after my own grove and superintending the operation of the two tractors I was kept pretty busy.

"Business increased so in the third year that I made up my mind to make the tractor business my main business and the ranch business secondary. I purchased an unused garage building and bought two more rebuilt tractors and a whole new outfit of implements. With my expansion I felt the need of engaging competent office assistance and was fortunate in securing the services of a man who was formerly in the cost accounting business in New York and whose forte was compiling statistics.

"My new bookkeeper's first report to me was made upon the cost of carrying on my tractor work for the previous six months and from this report I was considerably taken back to find that though I was kept so very busy, practically all of my profit had been eaten up in repair parts and labor expended upon the rebuilt tractors which I had started out with.

Re-equipping With New Tractors

"I immediately got in touch with the local sales manager for a line of well known Pacific Coast tractors and carefully went into the merits of that line and finished up by giving him my order for immediate delivery of two two-tons. Before fall I had ordered two more and was then on 100 per cent basis of that make.

"With the larger and more powerful tractors I had to start reorganizing my implement (*To Page* 18)

Time on the road between jobs is reduced to a minimum by loading the tractor onto a specially constructed trailer, drawn behind the truck carrying the tillage implements. Note the recording clock on back of seat to check every movement of time out and to keep operators up to highest efficiency.

New Reduced Prices for 1929

A. M. CASPARI
ORCHARD CARE CONTRACTOR

CONTRACT JOBS

Entire orchard care, by the year, per acre $55 to $80

Entire orchard care, by the acre, per acre $30 to $50 including irrigating

CUSTOM WORK FOR ORCHARDS

JOB WORK

ALL TRACTORS EQUIPPED WITH SERVICE RECORDING TIME CLOCKS

The contract prices charged by Mr. Caspari for orchard care are shown in the above reproduction of one of his pieces of "sales literature."

FRUIT CROP PROSPECTS for 1929

THE GENERAL OUTLOOK

By PAUL FROEHLICH
U. S. D. A.

IT IS becoming increasingly evident that this will be a year of very light fruit production. The combined August 1 condition reports for 12 fruit crops, on an average, were 24 per cent below the reports of a year ago and 19 per cent below the 10-year average for August 1. During July the prospective production of apples was reduced by 5,000,000 bushels, while peaches dropped 1,700,000 bushels, and pears showed practically no change. The condition of oranges in California declined 11 points during July.

The General Situation

Apples.—Very dry weather in most of the important apple States during last month resulted in a decrease of 5,000,000 bushels, so that the total crop of apples is now estimated at 149,000,000 bushels. This would be about one-fifth less than the quantity harvested last year, but one-fifth more than the very short crop of 1927. The commercial apple crop is forecast at approximately 30,000,000 barrels, compared with 35,000,000 in 1928.

Peaches. — Prospective production of peaches has been reduced to about 45,400,000 bushels or one-third less than last season's crop. South Atlantic States had less than half as many peaches as last year, while the western crop is about 30 per cent lighter than that of 1928. California clingstone peaches show especially low condition and may produce only 162,000 tons.

Pears.—According to August 1 condition, the pear crop is still expected to total 19,800,000 bushels, which would be about four-fifths as large as the 1928 crop. With the exception of 1927, condition of pears is the lowest since 1921. Prospects are especially poor in the North Atlantic States. Pacific Coast States expect about one-fifth fewer pears than in 1928.

Grape production may amount to only a little more than 2,000,000 tons, compared with 2,670,000 last season. California alone is estimated to have a reduction of 575,000 tons from last year's harvested crop in that State. All other States combined may have about one-tenth fewer grapes than in 1928, but one-third more than in 1927. Production of wine varieties of grapes in California is forecast at 420,000 tons, as against 482,000 harvested last year. Raisin grapes may amount to 1,010,000 tons, or 396,000 less than in 1928, and table varieties in California are expected to produce 361,000 tons, compared with 478,000 shipped last season.

Citrus Fruit.—Condition of the California orange crop declined 11 points during July and was only 59 per cent of normal on August 1, as against 93 per cent a year ago. Lemons showed a condition of 64 per cent or 24 points below last season's corresponding figure. Both oranges and grapefruit in Florida have an indicated condition 22 per cent lower than in August, 1928, and these two fruits average close to 60 per cent of normal this year.

Federal Farm Board

The Farm Board has begun to function and organizations of fruit growers are already seeking financial aid from that source. From the $500,000,000 revolving fund, authorized by Congress, the first loan was an emergency appropriation of $300,000 to the Florida United Growers and the Florida Citrus Fruit Exchange, to aid in fighting ravages of the Mediterranean fruit fly in that State. It is planned to equip certain packing houses in such a way that government regulations for combating the fruit fly can be met and that the major portion of this year's crop of citrus fruits in Florida can be marketed.

Applications for aid from the Farm Board have been made by California grape interests and by other organizations. The latest plan to be announced is a nation-wide fruit and vegetable growers' co-operative organization, known as the United Growers of America. This will have as members several smaller independent associations, located in various parts of the country. Press reports say that "the purpose of the United Growers of America is to strengthen such local organizations by obtaining for them a more complete marketing service, adequate credit, and other advantages not now accessible. The organizations becoming associated with the United Growers of America will continue to function in their respective local fields."

Peach Season Waning

September 1 usually sees most of the peaches out of the way except those in New York State, Pennsylvania, Michigan, Ohio and the Rocky Mountain and Pacific Coast areas. By August 10 only 16,500 cars of peaches had been shipped, compared with about 35,400 the year before. The shortage was especially noticeable in southeastern producing districts.

By mid-August, the area from Virginia to New Jersey was active, Illinois was shipping heavily, and California's movement was increasing. Illinois expected to market a large number of cars by rail, in addition to truck haulings. Early-season prices were fairly well maintained throughout the southern and middle tier of States, in spite of the inferior quality of much fruit. General jobbing range recently was $1.50-$3 per bushel. The crop is very light in Ohio, and is about one-third below last year's figure in Pennsylvania, New York and Michigan. Colorado expects more peaches than in 1928, but States farther west less.

Most kinds of canned fruit probably will be short this year, and values may be correspondingly higher. In California, canneries were reported to be paying $80 per ton for yellow clingstone peaches, or about four times what the growers netted in each of the last two seasons. Both No. 2 and No. 1 peaches are in demand this year, whereas No. 2 fruit has been allowed to go to waste in recent seasons.

Apple Shipments Increasing

Movement of apples from northern California was greatly delayed, but had become important by the middle of August and was then averaging about 50 cars daily. Shipments in other western sections had scarcely begun. Movement of eastern and midwestern apples to date has been four times as heavy as shipments from the West, with Illinois and Delaware leading all other States. The commercial crop is lighter than last year in all the important producing districts except New England, Michigan, Missouri, Arkansas and Kansas, and the entire situation looks favorable from a marketing standpoint. Such varieties of eastern apples as Wealthy and Maiden Blush were selling at $1.25-$3 per bushel basket in terminal markets, with Oldenburgs ranging $2.25-$2.50. These prices are nearly double those of a year ago.

Export Prospects

The 1928-29 apple season was quite successful with respect to export markets. About 20 per cent of the United States commercial crop was exported last season, as against 12 per cent the year before and 18 per cent during the 1926-27 season. Shipments to the Continent of Europe showed the greatest increase, and at times the demand, particularly for good barreled apples, exceeded the supply. A detailed 14-page mimeographed report by Edwin Smith, entitled "Summary of the 1928-29 Apple Export Season," is available from the Bureau of Agricultural Economics in Washington, D. C.

The coming year, American fruit will meet greater competition because of the larger production of apples and pears in Continental Europe. Apples and soft fruits were doing especially well in orchards on the Continent.

The commercial apple crop of Canada was expected in July to be 3,609,417 barrels, or 11 per cent heavier than the 1928 crop and 21 per cent greater than the recent five-year average. British Columbia reports a decrease of 25 per cent from the record crop of last year, but this is more than offset by an increase of 37 per cent in Ontario and 38 per cent in Nova Scotia. Quebec also reports an increase.

Active Grape Season

The relatively light crop of certain kinds of California grapes is expected to stimulate the demand this season and probably will result in higher prices all along the line. Movement of this fruit to market during the early part of the season was very limited. Not until August 10 did shipments begin to average 100 cars daily. Lugs and 4-basket crates of Thompson Seedless grapes were bringing 85c-$1, f. o. b. shipping points, and Kansas City dealers were getting $2.50-$2.75 for this stock.

The Ozark region in Missouri and Arkansas was becoming active in the middle of the month, and the Arizona grape season was closing. Arizona shipped 140 cars this year, or twice as many as in 1928. Last year, about 1500 carloads came from the Ozark region, but the crop there is one-seventh lighter this season. New York and Pennsylvania together have about 93,000 tons of grapes, as against 108,000 in 1928. Michigan expects 72,000 tons, or nearly as many as last season.

During the early part of September, the Bureau of Agricultural Economics in Washington, D. C., expects to issue a complete mineographed report on "Grapes in 1929." Copies can be had on request by interested growers and shippers.

Short Crops of Citrus Fruit

Condition reports on California and Florida citrus fruit indicate relatively light production the coming season. This will not only affect the domestic market demand but may also curtail the export movement. A recent press report indicates the rapid expansion of foreign markets for California citrus in the following statement: California citrus fruits have become so popular abroad that, since the introduction of refrigerator space in the vessels of the various lines, the delivery of this fruit has met with great success, according to the Los Angeles Chamber of Commerce. The market has steadily grown until in 1928 there was exported through the port of Los Angeles about 400,000 standard boxes valued at about $2,000,000. There was also exported of the juices of this fruit about 78,200 gallons valued at about $175,000, and in addition large quantities of orange and lemon oil, made from the peelings, not to mention orange marmalade."

The Pineapple Situation

A recent revival of interest in the growing of pineapples along the east coast of Florida may result in an expansion of this industry. Nearly all of our canned pineapple comes from the Hawaiian Islands, and reports forecast greater developments there also.

A Honolulu dispatch to the press of August 11 states that, due to domestic and foreign demand for their product which has absorbed the 1929 output of approximately 200,000,000 cans, Hawaiian pineapple packers are faced with the necessity of curtailing orders. One packing company has already decided to prorate its pack. It is estimated that approximately 90 per cent of the Hawaiian canned pineapple outturn this season will be distributed in the American market. Indications of an increase began to appear in the latter part of 1928. The report says: "It is believed that the growing demand will cause packers to develop new lands. There are still available large undeveloped areas on which pineapples could be grown and the California Packing Corporation is prepared to enter the Philippines, provided surveys about to be made indicate the advisability of growing and packing the fruit there."

The State Fruit Reports

ALABAMA

August 1—Fruits and nuts are violently off from last year's condition, as indicated by the following: Apples, 35%, as compared with 61% in 1928; peaches, 26%, as compared with 74% in 1928; pears, 40%, compared with 77% in 1928; grapes, 59%, compared with 71% in 1928, and pecans, 44%, compared with 70% in 1928.—Alabama Farm Production.

ARIZONA

August 1—The condition of apples is given as 70%, as compared with 60% in 1928 and a 10-year average, 1918-27, of 63%. The total production is forecast at 97,000 bu. as compared with 1928 production of 76,000 bu. and a 5-year average, 1923-27, of 94,000 bu. Commercial production is forecast at 10,000 bbls., compared with 1928 commercial production of 8,000 bbls. and a five-year average, 1923-27, of 10,000 bbls. The estimated production of peaches is 64,000 bu. In 1928, 66,000 bu. were harvested, and the 5-year average, 1923-27, was the same as the estimated 1929 production. Condition on August 1, 1929, 55%; 1928, 60%; 10-year average, 1918-27, 59%. The forecast for pears is 15,000 bu., the same as the 1928 production. The 5-year average, 1923-27, was 14,000 bu. Crop condition on August 1, 1929, is the same as last year, 70%. Ten-year average, 1918-27, 63%. Condition of grapes: 1929, 90%; 1928, 90%; 10-year average, 1918-27, 84%. The forecast for 1929 is for a tonnage of 1890, compared with 1785 in 1928 and a 5-year average of 782.—U. S. Crop Report.

ARKANSAS

August 8.—The commercial peach crop will probably amount to 2800 carloads. We had expected 4600 but a very late attack of curculio, coming just before harvest, plus very dry conditions in the southwest part of the State, cut off somewhere from one-third to two-fifths of the crop. Outside of this worm injury, quality was very good but dealers were afraid to buy and probably 90% of the crop was shipped on consignment. It is doubtful whether the growers will receive a net of 75c or 80c per bushel. The result was a very great disappointment and will probably result in greater use of liquid sprays and in the destroying of culls and drops to combat the curculio.

The apple crop is also a decided disappointment, though the change to the worse was shown early. Constant rains made it impossible to spray the orchards, with the result that the fruit is more scabby and wormy than it has been in quite a number of years. Pollination was also very poor. The crop will probably not run over 800 or 900 cars as against over 1200 for 1928. Quality will probably be poorer than in a long time.

Grapes apparently did well until a month ago, but losses have occurred due to drought and to extreme heat and probably imperfect pollination. Carloads may run to 800 where about 1300 had been expected. The sugar content is again high and quality should be very good. Movement begins from the largest shipping points about August 12.

The watermelon deal for southwest Arkansas is very good. The movement is now on and the yield promises pretty heavy. Prices will run from $1 to $1.40 per hundredweight. The main variety is Tom Watson.—Charles S. Barton.

CALIFORNIA

August 12.—**Apples**—The total crop of apples in California is now forecast at 7,510,000 boxes, which is a slight improvement over the report of a month ago. Last year the total production was 13,105,000 boxes. The commercial crop is forecast at 4,506,000 boxes this year compared with 6,861,000 boxes in 1928. The Gravenstein crop is now at its peak, and from all indications the crop is about as forecast on July 1. Up to and including August 3, 380 cars had been shipped, which is believed to be about one-half of the total movement. A year ago there were 2021 cars of Gravensteins shipped. In the Watsonville district where the Bellefleurs and Newtown Pippins are the principal varieties, conditions improved. The total crop in that area is now figured to be about 55% of the 1928 production, which was the heaviest crop ever produced. Prospects in the Yucaipa-Beaumont district are about as reported a month ago. The yield will probably equal that of last season.

Peaches—The total production of peaches of all varieties is now forecast at 303,000 tons, which is an increase of 4000 tons compared with the report of a month ago. This may be compared with 618,000 tons produced in 1928 and 492,000 tons in 1927.

Clingstone peaches are now forecast at 162,000 tons. In 1928 the total production of Clings amounted to 414,000 tons, of which 322,000 tons were canned, 22,000 tons shipped to out-of-State markets or consumed fresh within the State, and about 70,000 tons not utilized. According to reports, an unusually large proportion of the fruit has split pits, which is reducing the grade.

The total production of Freestone peaches is forecast at 141,000 tons, the same as reported on July 1. This may be compared with a total production of 204,000 tons in 1928. The Elberta harvest is just getting under way and growers are also reporting the percentage of split pits to be heavy in this variety. This condition, attributed to the frost, will no doubt cut down considerably the movement of fresh peaches from California.

Pears—The production of pears of all varieties is forecast at 173,000 tons, which is an increase of 1000 tons compared with the report of a month ago. As far as varieties are concerned, there will be about 150,000 tons of Bartletts and 23,000 tons of fall and winter pears. The above figures include all frost-marked fruit, of which there is considerable in some areas. Last year the total production was estimated at 224,500 tons, of which about 200,000 tons were Bartletts and 24,500 fall and winter varieties. The 1928 crop was disposed of as follows: 61,500 tons canned, 132,000 tons used fresh locally or shipped to out-of-state markets, and 31,000 tons dried. The 1928 tonnage of dried pears was considerably above the average. Interstate shipments to August 4, inclusive, totaled 2245 cars compared with 4625 to the same date a year ago and 2486 two years ago.

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Problems of the Apple Industry

By W. H. HALL
U. S. Department of Agriculture

APPLES rank first in point of production among all fruits grown in the United States with an annual carlot movement of from 90,000 to 135,000 cars. Since 1918 carlot movement has increased a little over 4500 annually, and this does not take into consideration the truck movement which has increased considerably each year, the most noticeable increase having taken place within the last four or five years. Notwithstanding the fact that apple exports more than doubled last season, and indications point to a continued active export trade, this is not in itself sufficient reason to warrant the opinion that commercial production has not already reached the saturation point.

During most years since 1913, the average farm price of apples has ranged below the pre-war wholesale price level of all commodities. While there are indications of a better approach to stability in the industry, on the other hand, with the number of trees now planted, commercial production is expected to remain at a generally high level for a number of years. Total production has shown a slight decline since 1917, but commercial production has steadily increased, which is believed to be due largely to vastly improved cultural methods. In other words, greater production per tree has largely offset the decline in the number of trees.

The industry when viewed as a whole does not present any too bright a picture; and yet the future appears somewhat more favorable for the commercial grower who is favorably located and who produces popular varieties of high grade apples at low cost. Success for the individual grower will require a broad vision of conditions throughout the country as well as of the detailed problems of his own orchard. Conditions are changing rapidly and the grower who fails to recognize this fact and to adjust his affairs to fit in with these changing conditions is inviting trouble.

Indicated Production Less Than Last Year

On August first the government estimate placed the commercial apple production at 29,661,000 barrels as compared with 29,886,000 barrels on July first. Final production figures for 1928 showed 35,308,000 barrels, about equally divided between the barrel and box. Washington, California, Oregon, Idaho, Colorado and Utah are the principal box apple States, while New York, Illinois, Michigan, West Virginia, Virginia, Missouri, Arkansas and Maryland are the principal barrel apple States.

While the latest government figures indicate a much smaller crop than last year, there is always the possibility of a material change, either up or down, when the final estimate figures are compiled. For example, last year the July first estimate was 33,196,000 barrels, whereas the final estimate was 35,308,000 barrels. In this particular case there was an increase, but it might just as readily have been a decrease.

Exports Increasing

Last season apple exports amounted to about 3,600,000 barrels and approximately 11,750,000 boxes. This was more than twice the volume of export movement for any previous season and was a very important factor in elevating prices to a higher level than would have otherwise been possible. Liverpool, Glasgow, Rotterdam, London, Southampton and Hamburg receive more than 75 per cent of total exports, although about 28 countries received United States apples last season —several of them for the first time.

The importance of this branch of the industry cannot be over-estimated. There seems to be excellent possibility for materially increasing export trade, and while the United States Department of Agriculture has done excellent work in paving the way for American apples in Europe, the fact should not be lost sight of that the real work rests with the growers and shippers.

We hear much about the low buying power of the European consumer, as well as the unsettled economic conditions prevailing in nearly all of the European countries, but last season's volume of export business proves quite conclusively that in spite of these reports there is a good steady demand at a satisfactory price for apples of good quality and condition. Further development of the export trade may mean the difference between profit and loss during years of heavy production or general business depression in this country. The ground work has been well laid, but the industry will not grow, nor even maintain its present position, unless the efforts of those who are responsible for the work are kept up.

Standardization occupies fully as prominent a place in the fruit industry as in any other industry; and, while progress along this line may appear to have been relatively slow, still, if we can visualize conditions that existed 10, or even five, years ago, it is rather astonishing to note the progress that has been made. Lack of concerted effort, rather than failure on the part of the rank and file of fruit growers and dealers to realize the need of more

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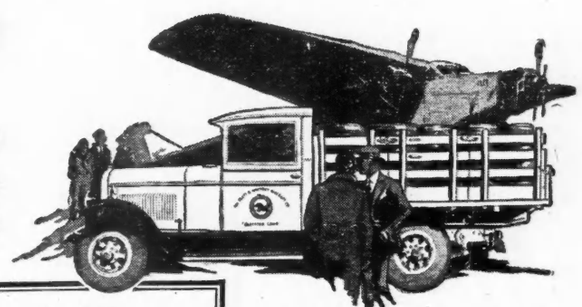
A Long-Life Record

Probably Unequaled in the History of Commercial Transportation

A Record Established By Reo Speed Wagons—Of Interest To Every Truck User. Read These Proved Facts!



1½ ton Reo Speed Wagon in service of Pratt & Whitney Aircraft Co., Hartford, Conn.

NOT long ago Reo proved by *facts* that no other American pleasure car was as long-lived as Reo.

Now—based on registration figures compiled by a totally disinterested statistical firm—(Reuben H. Donnelley Corporation)—Reo announces a record in long-lived commercial vehicles that we believe to be without parallel in the industry!

That's the record—in terms of years.

We don't know whether any other manufacturer, likewise figuring in terms of years, can equal that astounding record of longevity or not.

But whether he can or not, when we reduce longevity to *miles* instead of *years*—an even more accurate gauge of truck life than mere years—we are absolutely confident that no other truck built can match the record of the Reo Speed Wagon.

For Reo Speed Wagons, built to deliver passenger-car *speed*, cover more miles per hour, per day or *per year* than does the conventional, plodding type of motor truck; so that the probability is that a Reo Speed Wagon, five years old, has traveled twice as far as the average motor-truck of the same age.

Shrewd buyers of commercial transportation are not interested in the mileage record of 1 truck, 10 trucks, or even 100 trucks. But they are keenly interested in the *average* life, under *all* conditions, of *all* the trucks made by an individual manufacturer.

Check again the facts quoted above. Here is definite, concrete proof of the long life which has always been an outstanding feature of Reo Speed Wagons. *Proof*—based on the registration records of *all* Reo Speed Wagons in *all* lines of industry.

There is just one reason for this almost unbelievable record of continuous service: Reo early recognized the need for tremendous stamina combined with balanced light weight in commercial vehicles—the need for sizing and powering trucks to do their job economically, efficiently and over a long mileage life. This stamina has been a recognized feature of Reo trucks since their inception.

Today Reo engineers, in their defeat of Friction and Vibration, have designed and built an even greater measure of efficiency, economy and long trouble-free life into Speed Wagons of ½-ton to 3-ton capacity.

They have added features in design and manufacture that establish an entirely new conception of commercial transportation. Passenger car speed, flexibility and economy of operation have been blended with brute strength to offer industry ½-ton to 3-ton hauling like men have never known before. And above all, Reo engineers have made these qualities *lasting*.

Buying any truck without first investigating these Speed Wagons, is a mistake no thinking buyer will make.

Reo Speed Wagons are offered in 14 wheelbase sizes—from 115" to 179". Chassis priced from $895 to $2,200, F. O. B. Lansing. They incorporate such modern-day advantages as 4-forward speed transmission, 4-wheel, 2-shoe internal expanding hydraulic brakes, 6 cylinder engine, 7-bearing crankshaft, Myers Built-in chassis lubrication and other refinements.

Call your Reo dealer. One of the Reo Transportation Specialists who have studied and solved transportation problems for hundreds of truck owners will call and discuss your transportation needs, without obligation. Reo Motor Car Company, Lansing, Mich.

Read These Proved Facts

—On July 1, 1928, there were 96,481 Reo Speed Wagons registered in the U. S.

—This was 4,756 *more* than had been sold in the U. S. during the entire 6½ years from Jan. 1, 1922 to July 1, 1928.

—93.2% of all the Reo Speed Wagons sold in the U. S. the previous 7½ years were still in registered use July 1, 1928.

—80.3% of all the Reo Speed Wagons sold in the U. S. the previous 8½ years were still in registered use on July 1, 1928.

—And 50.8% of all Reo trucks sold since 1913 were still registered on July 1, 1928.

REO LONG LIFE
SPEED WAGON
World-Leader in High Speed, Low Upkeep Commercial Transportation 157

"FEDERATING" the FRUIT INDUSTRY

We are glad to present herewith the first of the comments received on the article in the August AMERICAN FRUIT GROWER MAGAZINE by E. S. Briggs, "Why Not 'Federate' the Fresh Fruit Industry?"

In brief, Mr. Briggs proposed a union of the existing "trade" organizations in the Fresh Fruit and Vegetable Industry, with representation from all societies of fruit and vegetable growers.

The co-operative organizations dealing in fruits and vegetables are now very generally organized in the American Fruit and Vegetable Shippers' Association, of which Mr. Briggs is Secretary.

The purposes of the Fruit Trade Federation would be to foster and protect the interests of the growers and shippers of fresh fruits and vegetables.

Further comments on this important question will appear in succeeding issues of this magazine.

I HAVE READ the article on "Why Not 'Federate' the Fresh Fruit Industry?" with much interest and believe that such a trade federation would be a very valuable asset to the entire industry.

The fresh fruit growers of the United States have so many interests in common with the shippers and distributors that both would surely be benefited by the proposed trade federation.

No other industry in recent years has prospered without organization. A trade federation of producers and distributors could successfully handle many problems of vital importance to the industry, and could demand the respect due a strong organization in negotiating with other interests.

The organization work would require great effort and considerable time, but with the whole-hearted co-operation of a number of the leaders in the industry it could be made possible, and, in my opinion, it would be well worth the effort.—*J. C. Ellston, Missouri.*

E. S. BRIGGS in the August issue of the AMERICAN FRUIT GROWER MAGAZINE has proposed a most effective means for the federation of the fresh fruit industry. Surely his experience as manager and secretary of the American Fruit and Vegetable Shippers' Association has given him wisdom and foresight so that he is most capable to propose the best plans for the future prosperity of the industry. Anyone would do well to study the article again and stand ready to help with any forward movement for our mutual benefit.—*Roscoe W. De Baun, New Jersey.*

THE PROPOSAL of federating the fresh fruit industry seems, in my opinion, to be an initial step in helping a sick industry. In this day of mergers, the four large existing fruit trade associations should follow the example of others and merge into one National Fruit Federation.

However, without representation from the producing class, the problems of production and distribution could not be properly met by such a federation. On the other hand, these problems might be solved and the industry brought to a healthier state if delegates from fruit growers' societies could meet with shippers and receivers in such a proposed fruit trade federation.

The receivers are dependent upon the shippers and producers, and we producers and shippers know that we cannot get along without the distributors. There are many common problems that a National Fruit Federation could work out, and it could even be of great assistance to the Federal Farm Board when that body endeavors to bring relief to the fresh fruit industry.—*Ewart G. Cowper, New York.*

I HAVE read with interest E. S. Briggs' article, "Why Not 'Federate' the Fresh Fruit Industry?" The suggestion looks practical and worth while. The details of the plan for federation would determine its acceptability and would require careful study. However, federation should be a practical step in more efficient co-operation on the part of these organizations and I would welcome thorough consideration of the subject.—*F. A. Norton, Washington.*

A GOOD many years ago the State horticultural societies were more prominent than they are today. At the present time we are living in an age of specialization. The peach growers find expression in the peach growers' organization and watermelon growers in their organization. Apple growers, pecan growers and vegetable growrs also find expression in their organizations, developed for their specialized business. If each organization, including the pomological societies of the country, would have a representative in the federation as mentioned by E. S. Briggs, there would be very little advantage for the State horticultural societies to have a voice or representation. But if only through the State societies they could find a voice or expression, the State societies would be strengthened and the burdens of the federation would be lessened by having fewer representatives from the same State.

The Georgia State Horticultural Society acts as a medium, functioning as a clearing house for all new developments in the horticultural knowledge of the State, thus giving its members an opportunity that they can obtain in no other way of keeping step with horticultural advancement. It is upon such service that the continued existence of the society is founded.—*George H. Fivor, Georgia.*

I READ Mr. Briggs' article in the August issue and I am very much impressed with the idea. Such a movement will not only assist in harmonizing relationship between grower, shipper, receiver and broker, but will make possible concerted action on matters of mutual interest. It will also make for more efficient convention attendance.

As I see it, there is really no need for any organization losing its identity in carrying out such a program. I do, however, see that there is a great deal of work to be done by some person or agency in accomplishing the initial program of such a movement.

I am glad to see the AMERICAN FRUIT GROWER MAGAZINE taking the lead in this very worth while project.—*Nelson B. Rue, Tennessee.*

THE PROPOSAL of E. S. Briggs for a national fruit federation should meet with the hearty approval of all concerned. Never in the history of this country has a strong national organization been more essential to the success of the fruit industry as a whole. Agriculture is now suffering more from a lack of strong organization than most other industries. The purpose of this organization would be to unify the efforts of all connected with this branch of agriculture. All parties in such an organization should be willing to co-operate to make every phase of the fruit industry as efficient as possible and support the decisions arrived at by the majority of the members and their representatives. It is to be expected that such an organization would adopt the findings of scientific research workers as a basis for shipping and marketing policies in order to benefit all parties—the producer, shipper, distributor and consumer. With co-operative, intelligent administration, a national federation of the fruit interests should prove a boon to all concerned.—*Howard C. Bartlett, Vermont.*

I HAVE READ E. S. Briggs' article in the August issue of AMERICAN FRUIT GROWER MAGAZINE and think it shows a well informed mind on an important subject. It is, however, a big proposition and one that is much easier to talk about than to accomplish. *IF* such an organization could be formed composed of persons who were unselfishly interested in its object and with the idea of making it of mutual benefit for all, there could be no question about its beneficial results. But that big little word *IF* is certainly a big word in a proposition of this kind, for the large territory it proposes to cover means "many men of many minds" and with many diversified conditions. Here in Rhode Island we have a market for much more fruit than we raise, so that a grower's interest as a resident of California would be quite the reverse from one in Rhode Island. Even so, a general discussion by competent persons well organized would prove of great value to everyone interested in the subject.—*Richard M. Bowen, Rhode Island.*

I HAVE read with considerable interest the article written by Mr. Briggs on "Why not 'Federate' the Fresh Fruit Industry?"

It is my personal opinion that most of the progressive growers, shippers and commission merchants, as well as others who are interested in the handling of fruit, are agreed that the fresh fruit industry should be organized in such a way as to be able to successfully make the wants of the industry known. The main question seems to be just what method is best and how this can be done.

As far as the commercial growers are concerned, they have been talked to concerning organizations to the extent that many of them have begun to wonder whether any of these amount to very much. Undoubtedly the motive back of these plans has been fine but the fact that some of them have not been successful will cause harder sledding for new proposals.

You recall, no doubt, that during the last year or two there has been organized the National Horticultural Council, an organization which concerns itself with some of the problems that Mr. Briggs mentioned but does so largely from the standpoint of the grower and shipper. It seems to me that perhaps this organization might be a logical one to reach the producers of the country and that further organization might well be taken up with the members of the board of directors of the Council.

I am aware of the antagonistic spirit which has prevailed among some of the fruit organizations and also of the fact that not all organization ventures have been successful, but it seems to me that from the standpoint of the commercial grower there should be only one national organization that is attempting to help handle his problems. Whether or not this should include the National Horticultural Council or be built upon it I am not in a position to say.—*Doyle Zaring, Indiana.*

A PROPOSAL to merge the existing fruit trade associations into one national fruit federation with representatives from State horticultural societies to work out a national program to increase consumption of fresh vegetables and fruits as to better meet the problems of production and distribution would seem to be a very good plan and to have many points of merit.

The size and importance of the fruit industry is such as to warrant much greater study and more unification.

There will be an opportunity of standardizing the grades and better equalizing

Sold...
15 Tons of Straw

A Bell System Advertisement

A FARMER near Ithaca, New York, wanted to have his straw baled, provided he could find a place to sell it. He drove here and there in his car, making inquiries. No one wanted to buy. Then he thought of a man who used straw in considerable quantity. He stepped to the telephone and called him. He sold him 15 tons, then and there.

* * *

A farmer living in Grant County, Ind., started to sell 75 hogs, but thought it might be wise to telephone and see if prices were firm. Prices had dropped ½c. He held the hogs and got a ¾c increase.

* * *

There is no friend quite like the telephone when emergency threatens, whether fire, injury, sickness or thieves. But it is also valuable in the day-to-day duties of life—running errands to town, bringing spare parts when a machine is broken, calling neighbors and friends, finding where to buy or sell for the best price.

The modern farm home has a telephone.

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — BELL SYSTEM

distribution than has been the case hitherto. In general, there has been too much looseness among horticultural activities. There have been too many separate units and too great a diversity of practices in regard to grades, packages and modes of selling.

If, therefore, a nationwide method of federation can be effected, with proper representatives from all local units, I can see a great usefulness for a general federation of the fresh fruits industry.—*M. B. Cummings, Vermont.*

IT SEEMS to me that the object lessons we have in the mergers and consolidations of the industrial, financial and labor organizations makes the advantages of the federation of the producers and handlers of fresh fruit, which is a large percentage of food supply, obvious. All units working through a central organization would prevent duplication and superfluous activities and eliminate any group with a tendency to exploit marketing to the detriment of the entire industry. Standardization of kind of containers to prevent overhead expense is equally as important as standardization of the product to demand a price. For instance, to demand high quality in peaches grown anywhere in the humid sections of the country and at the same time require that they be picked green enough to stand transportation in bushel bulk is incongruous. A federation of all legitimate interest could correct many things that are of disadvantage as they arrive and, further, an institution of this kind in its working would convey to the producers a true conception of a necessity for the concrete organization desired by the Federal Farm Board.—*W. M. Dickson, Delaware.*

MY EXPERIENCES in the co-operative movement have been rather unsatisfactory. Undoubtedly the federation of the fruit industry of the United States would solve a big problem, and it would also be a big problem to solve. I was a director of the Jersey Peach Growers' Co-operative and my experiences will stay with me for some time. I found self to be a big element in it, which was one of the causes of its downfall. Undoubtedly that is human nature and Mr. Briggs would run amuck that. Also, the overhead in federated affairs is very large as a rule. However, this is a progressive age and Mr. Briggs might be able to overcome a lot. If organization of the industry all over the United States could be as effective as the co-operative movement in California, it would be a godsend to us all.

I feel that the horticultural societies could be of great help in details and committee work.

If the movement of fruits could be more evenly distributed, it certainly would tend to avoid gluts and mean more to everybody interested. This part alone might warrant a federation.

All in all, it is a good goal to move forward to if there are enough big men to furnish the momentum.—*Laton M. Parkhurst, New Jersey.*

"WHY NOT 'Federate' the Fresh Fruit Industry" is a subject that is new to me and I do not feel qualified to predict what the outcome would be if it was adopted, but I think it would be a good subject for the horticultural societies, as well as shippers and commission men in the different States, to discuss, and it might be the means of improving our present methods, causing less waste, better distribution, better service, with increased satisfaction to consumers, and larger consumption, with a possible financial benefit to all concerned. — *A. T. Clark, Vermont.*

I AM heartily in favor of the proposed nationwide federation of the fruit and vegetable dealers' and growers' organizations.—*James Winsor, Rhode Island.*

I NOTE in today's paper the formation of the "United Growers of America," a nationwide fruit and vegetable growers' co-operative marketing organization.

If Mr. Briggs' idea is for an organization for educational and legislative work for the growers, then his proposal to draw from the horticultural societies of the various States might work out successfully. Most such societies function as educational agencies in the main. There is needed a national organization to take aggressive action to protect the interests of fruit and vegetable growers, and Mr. Briggs' idea may be the solution.—*Henry H. Albertson, New Jersey.*

MY FIRST reaction to a national organization at the present time is that we have so many problems that concern our organization in the State, and again speaking particularly about Florida, we have been endeavoring for many years to have the growers co-operate, but, as you know, it has been a very hard matter. However, we have been successful in forming a Clearing House, which bids fair to overcome some of the difficulties that we have experienced to date. After the Clearing House has been functioning to the extent of a year or more and has all its bearings and overcomes whatever obstacles there may be, and if the same method is employed in other States, then, in my opinion, would be the time to talk of a national organization. It has been my further thought that so far as we are concerned in Florida, until we have the deal shaped up better, we might lose our identity; however, this point is debatable.

In the final analysis, I agree that it would be a splendid thing for the entire fresh fruit industry to promote the general interests of fresh fruit, but as stated before, I do not know as to whether that time has yet arrived.

The thought of a national organization is certainly something to work for.—*C. W. Lyons, Florida.*

EVERY EFFORT to correlate and co-ordinate the production and distribution of produce is worth while. We are rapidly developing a national consciousness. Such a federation as proposed might help to lay the foundaton for a program of production and distribution which would eliminate some of the waste and friction of the present methods.

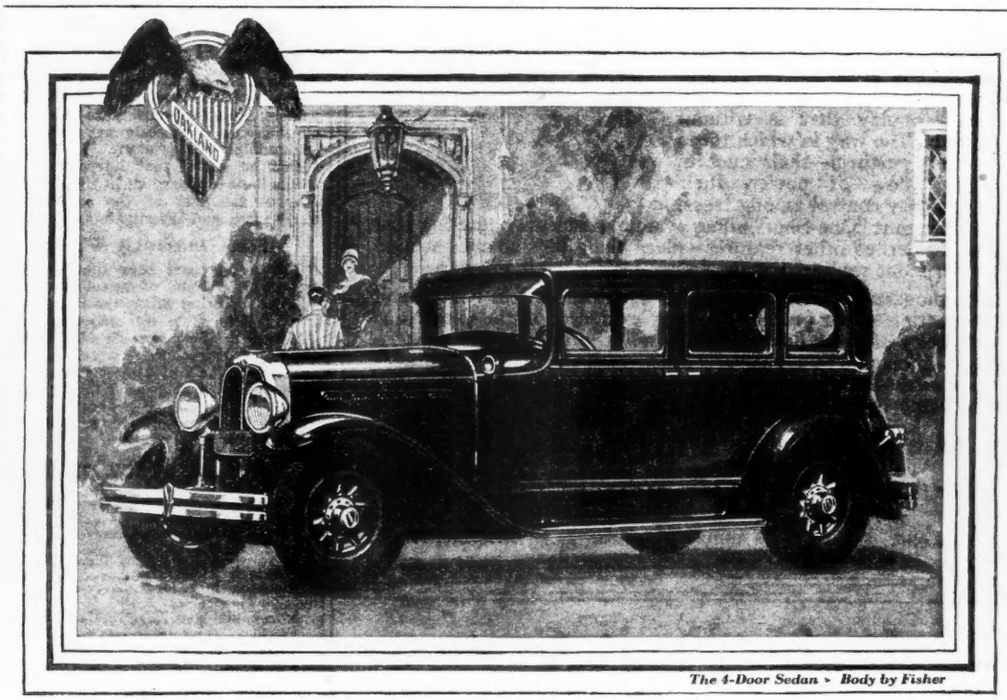
It is doubtful whether the national mind is ready now to accomplish the co-ordination so ably outlined by Mr. Briggs, but it is just the creation of that national mind which is the necessary first step toward the accomplishment of the actual fact.

The working out of the ideal will come about by perfecting the various units of the industry so that they will some day unite in a common purpose.—*O. S. Vantman, Florida.*

Inspection Work Increases

THE INSPECTION of fruits and vegetables by the United States Bureau of Agricultural Economics is increasing in volume. During the fiscal year ended June 30, 1929, a total of 266,831 inspections were made, of which 229,199 were at shipping points and 37,632 at terminal markets.

Shipping point inspections showed an increase over last year of 18,367 cars, while receiving point inspections showed an increase of 5202 cars of fruits and vegetables. Twenty-three States showed an increase in shipping point inspections during the past year and 15 States showed a decline. Since it provides a basis for making sales and adjustments, shippers and receivers are more and more appreciating the value of the service.



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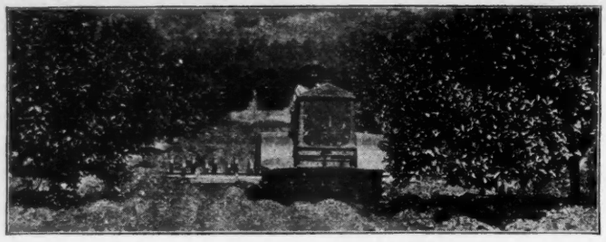

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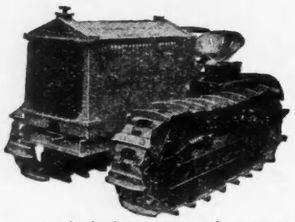

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Rootstocks for California

By MYER J. HEPPNER[1]

UNDOUBTEDLY the best place in the world to make a study of rootstocks is in California. This is true for several reasons: the multitude of fruit species being grown in the State, the various soils and climates existing, the presence of old established orchards, the experience of old growers and, lastly, the utilization of practically all the various stocks used throughout the country.

Although the industry has grown tremendously since its inception, it is of interest to note that we are using today the same rootstocks that we used years back. Relatively few new introductions are to be found, although several attempts have been made to create interest in species different than those being used. Unfortunately, many of these introductions have proved disastrous to the growers, but on the other hand, they have taught all interested in the subject a splendid lesson, namely, that over-anxiety to try a new offering on a large scale may turn out to be anything but pleasant. However, it should be stated that interest in rootstocks is at a high pitch in the State, not only on the part of the growers, but nurserymen and investigators as well.

Some Interesting Figures

For many years back the writer has followed the trend of rootstock developments as existing within the State by collecting data from the major nurseries. Although a single season's data show little, figures representing several years bring forth some facts of utmost interest. The table following represents the figures secured during the six-year period 1923-1928 inclusive and involves several million trees:

ROOTSTOCK DEVELOPMENTS FROM 1923 TO 1928

	1923	1924	1925	1926	1927	1928
Stocks for Almond	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Almond	72.0	35.9	39.8	53.4	64.2	47.0
Peach	28.0	64.1	60.2	46.6	35.8	53.0
Stocks for Cherry						
Mazzard	80.4	80.3	72.5	59.0	60.8	66.8
Mahaleb	19.6	19.1	15.5	34.8	24.3	21.5
Stockton Morello	....	.6	12.0	6.2	14.9	11.7
Stocks for Prunes						
Myrobalan	63.8	54.5	55.8	63.8	75.4	70.7
Peach	25.2	38.2	32.3	29.5	16.5	25.8
Apricot	1.4	2.9	3.8	3.1	5.7	1.0
Almond	9.6	3.0	6.2	2.3	2.4	2.5
Davidiana	....	1.4	1.9	1.3	....	....
Stocks for Plums						
Myrobalan	57.6	42.4	40.4	34.2	40.4	41.8
Peach	29.6	49.8	54.5	62.5	55.7	57.1
Apricot	10.7	7.6	4.8	2.6	3.9	1.1
Almond	2.1	.2	.3	.7	....	....
Stocks for Apricots						
Apricot	46.8	32.6	45.8	52.9	56.4	30.2
Peach	30.7	52.3	36.5	34.2	32.8	57.2
Myrobalan	22.5	13.8	16.2	12.5	10.8	12.6
Davidiana	....	1.3	1.5	.4	....	....
Stocks for Peaches						
Peach	98.0	99.0	97.6	98.3	91.9	98.9
Almond	.3	.3	....	.1	....	....
Apricot	1.4	.2	1.2	.7	4.0	.8
Myrobalan	.3	....	....	....	....	....
Davidiana	....	.5	1.2	.9	4.1	.3
Stocks for Pears						
Japanese	68.0	42.5	51.9	24.2	11.8	12.6
French	23.4	34.4	29.3	29.4	46.1	50.4
Quince	6.2	9.9	4.0	4.9	4.5	7.8
Calleryana	2.4	....	3.4	1.2	3.2	7.6
Old Home on French	....	9.2	8.3	12.7	17.6	9.3
Old Home on Ussuriensis	....	1.4	3.1	....	.8	....
Ussuriensis	....	2.6	....	2.3	2.3	.3
Old Home on Calleryana	....	....	....	25.3	13.7	12.0

An examination of the figures pertaining to the almond shows that but two stocks are in use, namely, the almond and the peach. Experience has shown that one root is just as good as the other for conditions to which each root is adapted.

Mazzard Root Most Commonly Used for Cherries

When we consider the stocks for cherries (sweet types) it is noticed that the Mazzard root has been the favored stock in California.

The cherry stock of second importance is the Mahaleb. This root has never been as popular as the Mazzard due primarily to ignorance regarding its characteristics. However, a good deal is now known relative to the Mahaleb, with the result that future demands will undoubtedly exceed those of the past.

In 1924, a new cherry introduction was offered to California growers. This is the so-called Stockton Morello root. This is an old established root in the vicinity of Stockton but its value was not recognized until recent years. From an inconspicuous beginning, the root now holds a prominent position among the cherry roots offered. Although the stock offers much promise for certain conditions, it is being planted with some caution until more information is available regarding its behavior throughout the state. This is the only stock in California among the fruits listed in the table that is propagated from root suckers. Propagation from seed has been abandoned in view of the great variation existing among the resultant seedlings.

Davidiana Stock for Prunes Being Tested

The Myrobalan plum and peach are the two favored roots for prunes, the former holding first position. Although there has been slight fluctuations in the relative demands for the two roots from year to year, the peach has never approached the Myrobalan plum for leadership. Apricots and almonds have always been used to a slight extent as stocks for prunes but at no time has either occupied a prominent position.

During the years 1924-26 inclusive, the table shows that the Davidiana or Chinese peach was in demand as a stock for prunes. Most of the plantings were more or less in the nature of experiments to test the behavior of the combination. This root is highly resistant to alkali and offers much promise in filling an opening in our rootstock column. Although it has been shown to be very resistant to alkali, it will take some time to test the behavior of the prune on it.

Plum and Apricot Stocks

What has just been said regarding the roots used for prunes cannot be repeated for the plums. In the latter case, it is noted that the Myrobalan plum was the favored stock in 1923 and the peach second in favor. Since then, however, there has been a complete reversal and we find the peach now in first place. This change is not due to any specific weakness in the Myrobalan plum as a root for plums but rather to the extensive planting of plums on soils to which the peach root is better adapted.

Some marked changes have occurred in the demand for the stocks used for apricots. The two favorite ones are the apricot and peach, the former holding first place during four of the six seasons represented in the table. The peach is better adapted to lighter soils but nevertheless splendid results are also being secured from the apricot root on some light soils. The resistance of the apricot root to the nematode is its chief advantage over the peach root.

At one time the Myrobalan plum was a prominent stock for apricots. However, this prominence appears to be on the wane for two reasons: First, failure of apricots to make a satisfactory union with certain

[1]Formerly with Division of Pomology, University of California.

plum types and, second, increased plantings on light soils calling for the peach or apricot root.

Majority of Peaches on Peach Root

Practically all the peaches propagated in California are on the peach root. During certain years some trees on almond root were planted. Although such plantings are insignificant in comparison with the acreage on peach root, the fact remains that the almond root adapts the peach to soils too light for the peach root. A small percentage of the peach trees planted during the past six years were on apricot root. However, the majority of these plantings are far from successful when compared with similar aged trees on the peach root. The reason for utilizing the apricot root is to get a nematode-resistant stock. Unfortunately, the nematode is most abundant in those soils to which the peach root is best adapted, as far as the physical nature of the soil is concerned. This root being very susceptible to the attacks of this pest, it is necessary to resort to a resistant root. The apricot root answers this but, unfortunately, the peach on the apricot is not always a congenial combination. This is quite difficult to understand in view of the fact that the opposite combination, namely, apricot on peach, is very satisfactory. Just another one of the many rootstock problems which need attention.

A considerable number of peaches on Davidiana root are now growing in various parts of California in alkali soils. Although the majority of these plantings are quite young, the results to date are most promising. One planting in the northern part of the State is close to 15 years of age and nothing better could be asked for.

Pear Stocks

Most of the pear trees growing in California at the opening of the present century were on the French root, *Pyrus communis*. However, pear blight was taking such a heavy toll among these trees that a cry went up for a blight-resistant stock. The results of a few years' investigations brought forth the Japanese root, *Pyrus serotina*, which was claimed to be more resistant to blight than the French root. The growers' eagerness to plant this stock ran away from them, with the result that the French root went begging while thousands of acres were set out on the Japanese root. The storm subsided somewhat when these trees came into bearing and it was learned that the Japanese stock had several drawbacks, such as susceptibility to oak root fungus, inability to withstand wet soils and finally, not being as resistant to blight as originally believed. During 1923 only 23.4 per cent of the trees planted that year were on French root and 68 per cent were on the Japanese. However, during the 1926 season, the latter plantings dropped to 24.2 per cent, while the French plantings increased to 42.1 per cent. In other words, the French regained first place. By the 1928 planting season, 59.7 per cent of the trees planted were on French, whereas only 12.6 per cent were credited to the Japanese. The marked drop in the Japanese figures for the years 1927 and 1928 can be traced directly to the findings by the California Experiment Station that the Japanese root is responsible for practically all of the pear black-end developed in California. This apparent physiological disorder is giving owners of orchards on Japanese root anything but comfort.

During the seasons 1926-28 inclusive, a large number of trees on Calleryana were planted. In view of the fact that it is a new stock for California, it will be some years before anything definite is known about it. It has some promise but growers are being cautious with their new plantings. They were burned by the Japanese root once and the wound hasn't healed as yet for many of them. But, as we learn by doing, many growers are setting out small blocks of Calleryana, hoping that all that is claimed for it will come true.

In all probability, the relative demand for the various rootstocks will not fluctuate much from year to year. However, new introductions may produce a marked change by creating a demand for the new root at the expense of the old. As many years are required for proving the value of a new stock, it appears as though most of the original introductions will reign supreme for some time to come.

Before Storing the Sprayer for the Winter

SOME types of farm machinery can be pulled into the implement shed when the season's work is finished and left until the following year without any damaging results, but this is not true of spraying equipment. The different parts of a spray pump—cylinders, plungers, valves—are fitted with exact precision. Lack of care in storing may result in rust, corrosion, freezing and injury to essential parts.

The first precaution which spraying equipment engineers and operators suggest is thorough flushing of the tank, pump and hose fittings. This dissolves and carries out spray material which collects during actual spraying. After flushing, some operators fill the tank again, start the pump, and use clean water from the spray gun, at high pressure, to wash down the outside of the sprayer, which is generally caked with dirt and chemicals after a season of use.

It is imperative that all liquid be removed from tank, pump, and piping. All drain cocks should be removed and the pump operated for a minute or two in order to facilitate complete drainage. An added attention which sometimes prevents later inconvenience or bother is to oil all threads on drains before replacing.

Men who like to give their sprayer the best of care, paint the tank inside and out each year. This can be done in the fall, and will protect the boards from drying out during the idle months. No other attention need be given the tank, unless the hoops have become loose and require tightening.

After making sure that the pump is thoroughly drained, one of two things is generally done. The drain plugs are replaced and the pump filled with crankcase oil, which is left there during storage to prevent rust; or oil is simply pumped through. The latter treatment leaves an oil film over most of the inner parts. The plan followed will depend on whether or not any oil left in the pump will come in contact with rubber tubing susceptible to rotting. If the oil injures only packing and diaphrams, the added insurance against rust is worth while, since these parts are usually replaced each spring. It is best to follow instructions given in the manufacturer's manual because they will embody the most dependable advice for that particular sprayer. It is well to disconnect hose fittings and store them in the tank or other dry place. On suction ball valves, the ball should be raised to allow any moisture, which may be held, to run down.

Before calling the job done, all hose should be cleaned, rolled up, and stored in a dry place to prevent rotting and cracking. Spray rods and nozzles may be protected by pouring kerosene and then oil through them. As a last step, all outer moving parts may be put into shape for immediate use in an emergency by oiling or covering with hard-oil.

Service men acquainted with spraying equipment attribute most sprayer trouble to lack of proper care, and they find that damage resulting from improper storage often causes trouble the second or third season, after the machine has given perfect service the first year of its use.

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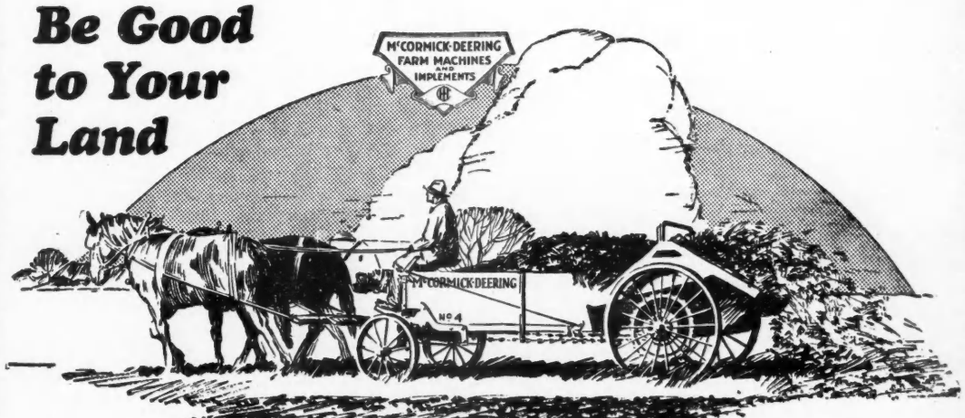

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CHATS with the Fruit Grower's Wife

By HAZEL BURSELL

WHO IS there so uninterested in good food that he or she does not appreciate the added zest that the right pickle or relish brings to a meal, whether luncheon, supper, cold basket lunch or dinner? They can make the most ordinary meal interesting and can add just the right flavor touch to even the "perfect dinner." Think it over and you will readily recall that the housewife in your section who has the reputation of being a "fine cook" also has a large and varied store of delicious relishes, pickles, jams and preserves. You owe it to your reputation as a chef to provide a like store.

Pickles are easy to make, easy to keep, and easy to eat. They are also economical in that the ingredients are always inexpensive and may usually be found right on the farm. In fact, pickling is one means of preserving for winter consumption farm products which would probably otherwise go to waste.

Every family has one or two tested and tried pickle recipes which they know will produce good results. The difficulty often comes in getting other dependable recipes for different varieties. In this connection it may be well to note that it is usually better to make smaller quantities of a greater number of varieties than to make so much of one or two kinds. With this and the fact that most recipes picked up here and there are lacking in complete directions, the writer is devoting these columns to tested pickle and relish recipes, many of which she has tried and approved herself and others which her friends have tried.

Favorite Dill Pickles

First on my list of favorites comes dill pickles. They are especially simple and inexpensive to make, perfect keeping, and of such surpassing flavor that 30 half-gallons proved an inadequate supply last season for our family of three (and our too-appreciative friends)! Here is the recipe:

Dill Pickles.—Select well-shaped, not too-fat, large cucumbers (from four to seven inches long or as large as your jars will accommodate). Wash the cucumbers and soak them over night in clear cold water. In the morning drain and pack them in sterilized jars—I always use half-gallon jars as it seems foolish to use smaller ones. Work in the desired amount of dill as you pack the cucumbers, say three small heads or one medium head, together with some of the stalks cut in convenient lengths. Then pour the following brine over them boiling hot, seal at once, cool and store.

(Note: Do not heat the pickles in any way except by pouring the hot brine on once.)

Dill Pickle Brine.—Measure out three quarts of water, one quart of vinegar and one cup of salt, bring all to a boil and pour boiling hot over the pickles in the jars. This amount of brine is sufficient to make four half-gallon jars.

Sweet Cucumber Rings

Pare the rind from enough ripe cucumbers to make two quarts when sliced. Cut in one-fourth inch slices crosswise and stamp out centers, leaving rings. (A doughnut cutter may be used for this purpose.) Cover the prepared cukes with cold water, add one teaspoonful of soda and let stand over night. In the morning drain, cover with cold water in which two tablespoonfuls of alum have been dissolved, and boil 10 minutes. Drain, cover again with cold water, add one tablespoonful of ginger and boil 15 minutes; drain, prepare a liquor of one quart of vinegar, three pounds of sugar and one-quarter cupful of stick cinnamon, add the cucumber rings and boil gently until cukes are clear. Seal while hot and store. For pickles of this type use small jars so that a large quantity need not be opened at one time.

The writer has not personally tried the above recipe for sweet cucumber rings, but it was given as one of a group of prize recipes in a nation-wide magazine contest. One of the features to its credit is the fact that it uses ripe cucumbers which would otherwise go to waste. There are many recipes on the same order which produce a similar clear, sweet, spicy pickle.

Bread and Butter Pickles

For the past decade we have been having a revival of interest in all things old-fashioned and savoring of pioneer days. Pickle and jam making are no exception. According to the traditions, bread and butter pickles are the kind "our grandmothers used to make." They are a mild flavored pickle, neither sweet nor sour, excessively salty or spicy. They should be sealed in small jars, as they will not keep too long after being opened.

Bread and Butter Pickles.—Wash, remove blossoms and slice 25 large cucumbers. Place in a large bowl in layers, distributing one cup of salt between the layers, cover with cold water and let stand over night. In the morning drain and add one quart of sliced onions. Place in a large preserving kettle and pour over them

1½ quarts vinegar
2 cups sugar
3 tablespoonfuls celery seed
1 tablespoonful dill seed
3 tablespoonfuls mustard seed
1 tablespoonful tumeric powder

Add enough water to almost cover and cook for 10 minutes, bringing just to the boiling point but not allowing the mixture to boil. Seal at once in sterilized jars.

Mixed Mustard Pickles

1 pint small cucumbers
1 pint large cucumbers, sliced
1 pint pickling onions
1 cup string beans, cut in one-inch pieces
1 pint small green tomatoes
1 pint cauliflower, cut into flowerets
3 red peppers, seeds removed and chopped.
3 green peppers, seeds removed and chopped
1 cup small carrots, halved
1¼ cups sugar
4 tablespoons flour
½ tablespoonful tumeric
1 teaspoon celery salt
Vinegar
4 tablespoonfuls dry mustard

Soak vegetables over night in brine, using one cup of salt to one gallon of water. Drain and soak in clear water for three hours. Mix sufficient amount of liquor to cover vegetables, using half water and half vinegar. Let them stand in this for one hour, then scald in this same liquor, but do not let them boil.

Make a dressing by mixing the sugar, flour, mustard, tumeric and celery salt and adding three pints of hot vinegar slowly, stirring constantly to make a smooth paste. Cook over hot water until the dressing thickens.

Drain vegetables from the scalding vinegar. Pour the dressing over them while they are hot and simmer for five minutes. Pack in clean, sterile, hot jars and seal.

Tomato Chutney

Four pounds ripe tomatoes, one pound pared, chopped apples, three large onions chopped fine, one pint strong vinegar, two tablespoonfuls salt, two to three cups brown sugar, two cups seeded raisins, one teaspoonful cinnamon, one teaspoonful mustard and one-half teaspoonful cayenne.

Chop vegetables and then the apples. Combine the ingredients and cook until the chutney is thick and clear. Seal in hot, sterile jars. Time may be saved by putting the vegetables through the coarse knife of the food chopper instead of chopping by hand. The raisins may be left whole or chopped as preferred. A few seedless raisins may be added if so desired. Apple alone instead of the mixture of apples and tomatoes may be used, or the two may be used in equal quantities. As a general rule, for chutney you make any kind of jam with almost any convenient fruits, add raisins, vinegar, spices, cayenne, salt, mustard and celery seed to taste. Onion is usually added, and sometimes a suggestion of garlic. Chutney is especially delicious when served with meats.

Should you desire a more highly flavored chutney than the above recipe gives, add the following during the cooking process—one-half teaspoonful cayenne, one-half teaspoonful allspice, one teaspoonful cloves, two teaspoonfuls mustard, and four to 12 cloves of garlic. (Note: Beware the garlic unless your family likes the flavor!)

Uncooked Relish

2 quarts sliced cucumbers
3 quarts celery, chopped
3 large red peppers
6 large onions, chopped
4 quarts green tomatoes, chopped
1 quart ground horseradish
2 cups salt
1 dozen green peppers
1 tablespoonful celery seed
1 tablespoonful cinnamon
2 tablespoonfuls mustard seed
4 cups sugar
2 quarts sharp vinegar

The vegetables should be finely chopped, so they may be put through the coarse knife of the food chopper in preparation for this relish. The red peppers should be sweet peppers, and the seeds should be removed from the green peppers before chopping. Combine the chopped celery, cucumbers, peppers, onions and green tomatoes. Sprinkle with salt, let stand over night, then drain thoroughly. Add the remaining ingredients, stir well, but do not cook. Place in an earthen jar, weight down, cover and let stand for a week, stirring well every day. Remove to small, tightly covered jars and store in a cool place.

Tomato Catsup

Following is a recipe for a bright red catsup. The use of brown sugar, ground spices and dark vinegar will give a deeper colored catsup.

6 quarts, solid measure, sliced ripe tomatoes
3 large onions
3 cups white vinegar
1 cup white sugar
½ cup salt
2 red peppers, chopped, seeds removed
2 tablespoonfuls whole pickling spice

Slice tomatoes and onions, add other ingredients and simmer until reduced to half the original bulk. Stir often to keep from sticking, or cook in a slow oven. Strain and store in sealed glass jars, as for any canned fruit, or in bottles with patent caps, or bottles using new corks and with the corks held securely in place by sealing wax.

Lazy Housewife Pickles

1 gallon cold vinegar
1 cup salt
1 to 2 cups sugar
1 cup mustard seed
Horseradish root
Cucumbers

Add salt, sugar and mustard to vinegar. Mix well. Wash fresh cucumbers, put into the vinegar and seal in jars or weight down in one large stone jar. Store in a cool place.

Baked Pickled Peaches

7 pounds peaches
5 pounds sugar
1 pint vinegar
1 ounce stick cinnamon

Wipe the peaches with a towel, then pack in a stone crock. Some experts like to stick one or two whole cloves into each peach. Make a sirup of the vinegar, sugar and the cinnamon. Pour over the peaches and bake in a slow oven for one hour (350 degrees). Cover the crock with a plate while cooking and leave the plate in place until ready to use. Store in a cool place.

Variety Is Needed

It is to be hoped that every farm housewife will prepare a generous supply of pickles and relishes to tempt the somewhat jaded palate during the long winter months. The recipes and directions given in this department should prove valuable to the housewife who wants to add to her list of varieties or try a new recipe for an old delicacy. All measures given in the above recipes are level.

A Dustless Duster

A SOFT CLOTH dipped until saturated in a solution of one tablespoon turpentine, one quart hot water and three tablespoons raw linseed oil and then wrung dry makes a very satisfactory dustless duster for painted or varnished surfaces. The turpentine cuts and cleans and the oil renews the polish of the wood. Cheese cloths or the legs of old white hose are good for the purpose as they absorb the oil and turpentine mixture evenly and produce little lint. Keep the dusters in a glass jar.

XUM

Fruit Farm Poultry

By RALSTON R. HANNAS

Egg Food

IN ADDITION to the regular ration of grain and mash, there are other things that are needed if egg production is to be obtained. Green food is one of these things.

In many sections there is very little green food just now, as the natural vegetation has largely dried up. Where this is the case, mangel beets or turnips may be fed, or alfalfa or clover hay that is real leafy. Remember, also, that if rape, chard or cabbage are available, these make excellent green food, not only now but also for later in the year.

Shell forming material must also be provided if eggs are to be expected now. Crushed oyster shell, limestone, or other material carrying lime should be before the birds in hoppers. At this time of the year, many folks rely too much on what material of this nature the hens can pick up for themselves. It happens that in some sections of the country the materials that the hens pick up do not contain much lime in such a form that the chickens can make use of it. To be on the safe side, therefore, it would be well to supply it at all times.

Plenty of water is also necessary if egg production is expected to hold up. The egg is more than half water, so it can be seen that a plentiful supply is needed for this purpose, as well as for maintaining the bird's body.

Wet Mash for Layers

THE PROBLEM at this time of the year in farm flocks is to get the layers to consume enough mash, which is the egg-making food of the ration. A good many poultry keepers reduce the amount of grain that is fed just now to about six pounds of grain per 100 birds per day in order to force the hens to eat mash. This is all right as long as the hens are in good condition.

However, where the hens show a tendency to be a little thin, this is not a good practice, for this is an indication that they need the grain to maintain their weight. Another way of maintaining mash consumption is to feed a wet mash in addition to the dry mash that is kept before them all the time.

A good mash to feed in this way is one composed of equal parts of ground rolled oats and corn meal moistened with milk, or the regular egg mash that is fed dry may be mixed with milk. The mash may be fed once a day—generally about noon—as much as will be cleaned up in about 15 minutes. It may be fed in a shallow pan or trough. See that the container is cleaned as soon as the mash is cleaned up. It is not a good plan to leave this wet mash standing around from one feeding to another.

Preliminary Selection of Breeders

IT IS a little too early to make final selection of birds for the breeding flocks, but a preliminary selection can be made at this time. The laying flock has doubtless been culled all summer so that the birds that are left now are the best layers. It will pay to look these birds over right now to see if they have any disqualifications that would bar them from the breeding flock, such as wrong colored plumage, feathers on the shanks in breeds that are not supposed to have them and characteristics that do not mark them as good representatives of their breed.

If trapnest records are available for the production year thus far, so much the better, for such things as size of egg, color, shape and shell texture can be ascertained, as well as the season at which the eggs were laid and the exact number. The early maturing bird that lays a good sized egg—at least weighing 24 ounces to the dozen—of good texture and color, and a bird that conforms to the standard of her breed and variety with no disqualifications is the one to save for the breeding pen.

There may be many birds in the flock that are good layers; they may be profitable, but they have no business in the breeding pen. Save such birds for laying purposes but do not let them get by as breeders. It is a good plan to mark such birds that are to be held with a colored legband or by some other method. It may be that some birds may even be disposed of now to good advantage. But it is a good plan to make a preliminary selection of breeders at this time and, if possible, put them in a pen by themselves.

Care of Hens During the Molt

THE MOLT is the resting period and hens in the molt should be treated accordingly. Many flock owners have the mistaken idea that because hens are molting they do not need any food.

A laying mash should be kept before them so they can eat of it at will, but a heavier feeding of grain should be made, because the idea is to encourage the formation of body flesh. Birds usually molt because they are thin, particularly if they molt out of season. If a feeding of from 13 to 14 pounds per 100 birds per day is given to Leghorns and a pound or two more to the heavier breeds, the birds will balance the rest of the feed they need from the mash, providing it is kept before them.

Some poultrymen bring their birds around from the molt more quickly by the use of lights in the house. This may sound like forcing, but it really offers a chance for the birds to eat more feed, because, of course, about two pounds more grain for every 100 birds is fed when the lights are turned on each day.

Early Housing of Pullets

ALL FLOCK OWNERS are aware of the fact that chickens are creatures of habit and are easily affected by a change in management or change in dwelling. A temporary setback and slight molt with an accompanying drop in production often result from such a change.

It is, therefore, wise to avoid this, if possible, with the new pullets. Housing them early will help to avoid it. Another advantage of getting the young stock into their permanent quarters before they start laying, or as soon as they start, is that they are then off range and are not exposed to the cool weather and usual rains that are common in late fall. Exposure to such conditions often results in colds, roup, canker and continual lowered resistance, so the pullets are easy prey to other diseases and troubles throughout the winter.

A good time to put them into their laying quarters is when their combs are reddening up and the first pullet eggs appear. These eggs will, of course, come from those pullets that are farthest advanced and are an indication that the others will not be far behind. At this time the pullets can be put in their houses and switched to a laying ration, that is, an egg mash. They will still need a larger percentage of grain than mash, no doubt; this will depend upon their condition. Early housing will avoid many difficulties later on.

Over-crowding in the poultry house discourages production of high-priced eggs.

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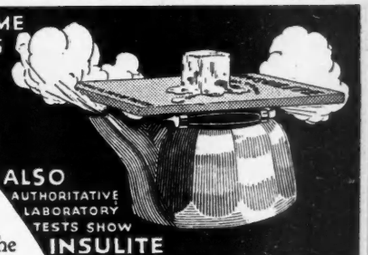

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Business Methods to Aid Marketing

(From Page Five)

soil, through the securing of seed, purchase of fertilizers, cultivation and spraying of the crop to the season of harvesting and packing. Unfortunately, many growers engaged in producing fruits and vegetables have to strain their credit to carry this load. It must be provided by banks, merchants, commission men, jobbers, or someone else. Tens of thousands of such producers cannot at this time join a co-operative because their output is mortgaged for everything from fertilizer, seed and spraying solutions to machinery, boxes and labor, to say nothing of food and clothing and the other essentials of life. A co-operative must take over a part of such financial obligations. This simply means that money must be provided from sources outside of the government. The United Growers realize that this is the key to the situation and will be prepared to furnish substantial production credits to the growers.

Assembling "Mixed Cars"

To save money and bring relief to the growers of fruits and vegetables we must take into account the many small cities of the nation which afford markets for these products in less than carload quantities. We have 25 or 30 large cities which demand grapefruit, cabbages, oranges or tomatoes in carload lots, while we have thousands of smaller cities, and a still greater number of villages, which can handle only mixed carloads effectively. Under our present system of distribution, carloads of a commodity are shipped to the big centers, where there is often much congestion. There they are broken up and mixed carloads are shipped back down the line to Timbuctoo or some other small town, at an additional cost of some hundred dollars per car, which the growers and consumers must pay. Much delay results and the commodity often becomes stale and unattractive.

The consumer in the small city is just as desirous of, and is certainly just as entitled to receive, fresh fruits and vegetables as the consumer of the metropolis. In other words, the demand is there but it is not being properly supplied. In this respect, our present system is deplorably inefficient and expensive and much improvement is easily possible in this one department of the marketing field. Once the improvement is effected, there should be a material increase in the consumption of all fruits and vegetables. But it is necessary to lay these commodities down in the small cities in just as fresh and wholesome condition as in the big marketing centers.

Concentration Points Near to Sources of Production

We plan to secure mixed carloads from concentration points located in close proximity to the areas where the crops are produced. When that system, as far as is practicable, is inaugurated, the produce will need to be handled only once. It will be shipped direct to the cities of consumption rather than first to the large centers, there to be broken down and reshipped in mixed carloads back over the same route to the cities which eventually consume it. It is obvious that only a large national organization, with large volume control, could most effectively render this type of service, which should result in a substantial saving to the producer and the consumer. Co-operatives using this service will be represented by an organization which is constantly advised as to the supply and demand conditions which prevail in all the markets of the country, thus promoting a better distribution and a more satisfactory price for the farmer. To accomplish all the improvements herein enumerated will require time, capital, competent management and the whole-hearted co-operation of producers.

Ownership Vested in Local "Co-ops."

The United Growers will not take over the locals but will simply serve as their representative in a national way. It believes that the local co-operative, with its community spirit and interest, is absolutely essential to the bigger marketing system if it is to become a system of enduring permanence.

Co-operatives of both national and local character have pledged their tonnage and financial support in the organization of the United Growers. Such pledges already provide many thousands of carloads of fruits and vegetables of the best known brands shipped into domestic and foreign trade. Initial membership pledges comprise grower organizations whose crops are grown in more than 25 different States. Subscriptions guaranteed by the participating organizations and by investors insure the carrying through of this major scale service to the fruit and vegetable industry.

Invitations are being issued to co-operative associations throughout the United States, calling for group conferences and negotiations, looking to their participation on the same initial basis. Assurance has also been given by a number of private marketing concerns that they will be interested in joining in this program and readjusting their services to a large scale merchandising of fruits and vegetables in accord with policies of the Federal Farm Board. These negotiations are to bring to the organization the best qualified men in the fruit and vegetable industry, whether now engaged in marketing co-operatively or marketing privately.

Grape Industry Secures Nine Million Loan

LOANS aggregating more than $9,000,000, to be expended through farm co-operative groups for the stabilization of the California raisin and fresh grape industries, were recently approved by the Federal Farm Board.

The two principal groups involved are the Sun-Maid Raisin Growers, one of the oldest co-operative associations in the country, and the Federal Grape Stabilization Corporation, recently organized in the fresh grape industry.

Half of the maximum credit of $9,000,000 which is to be advanced to the Sun-Maid Raisin Growers for advances to grape growers on their 1929 crop is to be supplied by the board, while the balance will be supplied by a group of banks, including the Federal Intermediate Credit Bank of Berkeley, Calif.; the Security First National Bank of Los Angeles, Calif., and the Bank of Italy, the National Trust and Savings Association, and the Anglo-London and Paris National Bank, all of San Francisco, Calif.

In addition to cash credits granted, the board, it was announced, will assist the Sun-Maid Raisin Growers in whatever way possible to insure the growers "the undisturbed use and control of the valuable Sun-Maid trade-marks, the modern plants, and the international sales organization" which the raisin growers of California have built up over a period of years.

Apple Tree to Be Honored

THE Covington, Va., Chamber of Commerce is planning a big celebration for September 2 in honor of the original Staymared (pronounced Stayma-red) apple tree discovered in the famous B. C. Moomaw Stayman Winesap Orchards, near Covington, Va.

Among others, the following noted speakers have been invited to participate in the celebration: Governor Byrd of Virginia; Governor W. G. Conley of West Virginia; E. C. Auchter, principal horticulturist in charge, United States Department of Agriculture, Washington, D. C.; H. L. Crane, state horticulturist, West Virginia; F. A. Motz, state horticulturist, Virginia; W. S. Campfield, secretary, Virginia Horticultural Society; T. B. Byrd, president, Virginia Horticultural Society, and others.

This new color freak of nature is a vastly improved Stayman Winesap borne by one tree in the Moomaw orchards. It is called a "double red" Stayman because it becomes a deep, rich, solid red *all over* in August, when ordinary Stayman would be merely striped with red and partly green. Even the apples on the shaded limbs of this Staymared tree glow with this remarkable all-over solid red.

Orchardists who have seen this tree state this solid, all-over-red color means a very high percentage of extra fancy grade in color, and that much higher market prices should be realized for the fruit.

Store Half of Apple Crop

DISCUSSING the apple situation in an address delivered over the National Broadcasting Company chain of radio stations recently, Wells A. Sherman, specialist in charge of the Fruit and Vegetable Division of the Department of Agriculture, declared that the reduction in the apple crop this year is evenly distributed over the country. The exceptions are New England, Michigan, and Virginia, which promise to have more apples than last year.

"There seem to be no more apples in sight than the markets ought to take at relatively good prices," said Mr. Sherman, "but there may be too much speculation and the early winter price may be set at too high a level. The public may not buy freely and if there is any considerable slowing down of consumption, we shall have a surplus which is likely to be sold with heavy losses for somebody."

Mr. Sherman said this appeared to be a season when it would be a good policy to store at least half the crop in the fall.

Professor Motz Accepts London Appointment

A NOTICE in *Virginia Fruit* has just come to our attention, which contains the information that Prof. F. A. Motz has resigned as horticulturist of Virginia Polytechnic Institute, Blacksburg, to accept the position of American representative in foreign markets, London, recently vacated by Edwin Smith. Prof. Motz has been at Blacksburg for many years, and has had much to do with the developing of extension horticulture work in Virginia. In addition to a great many valuable pieces of work accomplished by Prof. Motz, he was instrumental in developing the spray service in that State, and he also introduced the long system of pruning of both peaches and apples, which is giving outstanding results. Most of all, he has won the confidence and good will of the growers, and there is no doubt Prof. Motz will make an outstanding success of his new undertaking.

XUM

Bordeaux as an Insecticide

(*From Page Six*)

tain if possible the exact role of Bordeaux mixture in the killing process.

Not a Contact Poison

One of the first problems to decide was whether Bordeaux coming in contact with the insect's body was of any value as a contact insecticide. Experiments were carried on to test this point by spraying the insects thoroughly and placing them on plants which had not been treated. It might be added that many of them were so thoroughly sprayed that they were not active for several minutes after the treatment. They were placed immediately upon untreated plants where they fed normally during the remaining days under observation. In spite of this severe treatment, at the end of six days after spraying less than five per cent had died and those alive were apparently in normal condition and developed to the adult stage. In some of these specific tests all the leafhoppers survived these contact treatments and remained alive for ten to twelve days afterwards when the observations were discontinued.

Another angle of the contact factor is the possibility of the insect coming in contact with the spray residue upon the plant. Plants were treated and allowed to dry and leafhoppers were then placed upon them where they fed during the next few days. Practically all of the insects placed upon these treated plants died within four or five days. If the plants were protected from the action of rain and leafhoppers were placed on them two or three weeks after treatment, the insects died in approximately the same length of time as they did if present on the plants at the time of spraying. This would indicate very strongly that it is not necessary to strike the insect with spray material.

In order to eliminate the effect of the Bordeaux mixture residue upon the leafhoppers as they come in contact with it when dry upon the leaves, plants were sprayed and later were washed thoroughly under running water removing all visible Bordeaux stains and residue. Leafhoppers placed on plants treated in this manner all died in four or five days, the approximate length of time at which death occurred in these other experiments.

Copper Poisoning from Plant Juices

These observations indicated very strongly that the plant juices were definitely affected in some way by this spray material and a series of experiments were carried on in order to determine the effect of Bordeaux upon the insect when it was permitted to feed upon Bordeaux sprayed plants but was prevented from coming in contact with the spray material on the plant. This was accomplished by spraying only the upper surfaces of the leaves and confining the hoppers to the under surfaces for feeding by means of special feeding containers.

The results of these experiments indicated very strongly that the leafhoppers were obtaining something from the plant sap which caused their death, since insects kept under exactly the same condition on untreated plants showed only a small percentage of mortality in comparison with those on treated plants.

During these tests insects were observed to die with what might be called typical symptoms of Bordeaux poisoning. In two or three days the leafhoppers become weakened and fall from the plants after feeding upon Bordeaux sprayed foliage. After once dropping from the plant they are unable to get back on it or to carry on any decided locomotion, and if placed on the plant they are not able to remain on it. This apparent weakened condition is linked with partial or total paralysis and the insect dies in this manner. From the standpoint of the plant very little leafhopper injury actually takes place after the plant is sprayed although the insect may not die for several days.

As regards the strength of copper for the Bordeaux spray, experiments indicate that 2-4 (hydrated lime)-50 is as toxic to leafhoppers as a 5-8-50 Bordeaux. As many leafhoppers will die and in as quick a time with a weak copper as with a strong solution.

Problem Nearing Solution

There are many problems yet to solve in regard to the probable role of Bordeaux as a leafhopper insecticide but we may be on the road to solving this puzzling but fascinating problem. There is no doubt in the writer's mind after these tests and observations that Bordeaux mixture should be classed as a leafhopper insecticide at least for the potato leafhopper. All results from conducted experiments would indicate that Bordeaux mixture is not a direct contact insecticide since leafhoppers are not affected apparently by this material upon their bodies and there is slight probability that the leafhoppers which come in contact with the dry residue on the sprayed plants are affected directly by this spray residue. Otherwise it will be difficult to explain results obtained in certain of these previously reported experiments.

Apparently the only insecticidal factor common to all these experiments was the copper from the Bordeaux mixture which was absorbed by the plant. How this is absorbed and in what form, how it is obtained by the leafhopper or whether it combines changing chemically or affecting chemically the plant sap or tissues is not known. Recent experiments would indicate it is probably soluble copper when the insect obtains it from the plant. There seems to be no question however, but that it works in some way through the plant tissues. This would indicate that the application of spray to the plant is the factor of primary importance.

Probably the only limiting factor in the use of Bordeaux is the question of plant injury and consequently the plants upon which it can safely be used. If the statement by Aderhold and Schander "that injury by Bordeaux is due to the accumulation of soluble copper in the plant," is the proper explanation, then all types of plants may suffer injury under certain types of prevailing atmospheric condition, and observations would indicate that this is probably the case.

Fruit Stocks to Be Excluded

THE SECRETARY of Agriculture announces that on and after July 1, 1931, Mahaleb cherry, Myrobalan plum and other fruit stocks will be excluded from entry into the United States.

This decision is based on evidence presented at the fruit stocks conference held by the Plant Quarantine and Control Administration and the Federal Plant Quarantine Board, July 19, 1929. This conference was attended by officials and other representatives of the American Association of Nurserymen, the horticultural specialists of the Bureau of Plant Industry of the Department of Agriculture, and others in interest. The evidence presented as to Mahaleb cherry, Myrobalan plum and other fruit stocks indicated that the present availability of satisfactory American-grown stocks of these fruits was sufficient to justify the exclusion of these stocks after a reasonable period for adjustment of business contracts, etc., and thus terminate the very considerable and continuing risk of entry with such stocks of new and dangerous fruit pests.

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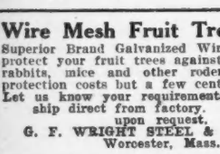
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Read the Advertisements—It Pays.

A Profitable Apple By-Product

By JACK LUDDY

TO START the manufacture of an article as a side-line in order to circumvent an economic loss and then to find, within a few months, that the side-line has become so much more important than the parent industry as to warrant the latter's discontinuance—that has been the experience of the Liberty Orchards Company of Cashmere, Wash., manufacturers of "Aplets," an apple-nut confection utterly unknown a few years ago, yet having a national sale today.

A. L. Tertsagian, with his brother-in-law, M. S. Balaban, originated the confection and founded eight years ago the company manufacturing it. Previous to that time, they were in the dried apple business. They did very well, especially during the war, but they had a difficult time disposing of the small apples.

"We were using from 700 to 1000 boxes of apples a day," according to Mr. Tertsagian, "and we used machines to peel them. The big apples were fine and had little waste, but after the little apples went through the peelers and dryers they came out about as big as a pea—absolutely a total loss. It was no use, so we had the small apples sorted out and put aside. We sometimes found at the end of the day that we had almost 100 boxes of little apples that were no good to us.

"We set out to find a way to utilize them. They were out of the question for cider. We turned our attention to syrups and preserves, but they did not solve our problem. Then we started experimenting with a confection, but it was three years before we perfected aplets.

"We had several problems to overcome. Fruit juices have violent chemical reactions. You can make an absolutely delicious confection with them that will stand up for a time, but you never know what will happen when you put them on the shelf. We did not consider Aplets marketable until we had perfected them so they could be kept on the shelf a year if necessary without deterioration.

"When we started in business there were just two of us, Mr. Balaban and myself. Now we have one of the most up-to-date plants on the Pacific Coast and we employ 50 persons. At first we used to buy boxes a few hundred at a time. Now we buy them by the carload. Last December we shipped between 85,000 and 90,000 boxes of goods to all parts of the United States. That is unusual I think for a factory in a little town like Cashmere.

"Our Aplet business has grown so fast we have long since discontinued the business of drying apples. You see the by-product has become more important than the parent product. We have no difficulty in getting our material. Wenatchee Valley is one of the greatest apple-producing districts in the United States. We buy up a large percentage of the small apples which heretofore went unused. They are ideal for the purposes to which we put them.

"The business of making Aplets has many advantages over the business of drying apples. Apple-drying is sort of a seasonal occupation. With Aplets it is different. We keep our apples in cold storage the year round, using them as we want to. In this way we have made it a year around industry with no serious slack periods.

"We use only California walnuts in our product and I have it on the authority of the California Walnut Growers association that we are the largest individual buyers of their product in the country. That, too, is unusual for a little industry like ours."

When asked how Aplets are made, Mr. Tertsagian replied: "They are made of apple juice and walnuts. Never mind about the process. I won't say that others cannot make them, but they cannot make them like we do. I know, because they have tried and they have failed."

Better Orchard Service with Equipment that "Fits"

(From Page Seven)

end and purchased tools that would stand up under the strain of the big two-tons.

"I boosted my price per hour with my old tractors from $2.25 per hour to $3.00 and found no trouble in explaining to my customers that they were getting more for $3.00 than they had ever gotten for the $2.25. And to prove this I offered them the acreage price for the same work.

"I operated four tractors last year and they did considerably more work than did six of my old type of tractors and netted me about 33 per cent more profit.

"I cared for about 700 acres of citrus in 1928 and did custom work upon about 400 acres for market gardeners, etc. I now have my fifth, sixth and seventh two-ton and expect to purchase my eighth and ninth next spring.

Modern Trend Toward Efficiency

"I don't know much about the change from hand and back work to present methods but I do know the conditions that caused the change from team to tractor work in about 90 per cent of the groves hereabouts. It was a matter of keeping up with the times and getting about ten times as much efficiency out of the power machines as was formerly gotten from mules and horses."

Building a "Particular" Trade

In his 1927 announcement card to his mailing list, Mr. Caspari stated:

"I have built up a name and reputation for myself and my organization of doing 'particular' work for 'particular' people, and here is what I now have to show for my honest endeavors: 500 acres of citrus orchards under my entire care, under yearly contracts, and I want to tell you that the owners of those 500 acres are 'particular,' but I have satisfied them and made their groves 'pay' and I have their contracts for another year. That's what counts:—Service that Pays!

"Besides the 500 acres upon which I have the entire care, I have nearly 200 acres of custom work, most of which is done for market gardeners and vegetable growers. Some of this custom acreage was formerly in citrus planting but owing to the wrong method of culture being employed by the so-called cheap outfit, it went 'back' and now I am employed to bring it into shape again."

In the fall of 1928 he added:

"Since the fall of 1927, I have done some expanding and now have practically 1000 acres of citrus under my care and have considerably more than 2000 acres of custom work upon my books. I am equipped to lay out and grade roads and I, at present, have several miles of roads under construction."

"Splitting" the Profits

It's good business to take the public into your confidence, to tell them your plans, and then make good. This builds confidence, and confidence builds business, as the shoe business had taught the ambitious young contractor. Hence, his 1928 profits showed him the way to a cut in prices for 1929 and he announced a drop from $3 an hour to $2.75 for tractor work.

"By handling a large volume of work and keeping my organization and equipment busy throughout the year I am enabled to quote these reduced prices for my work.

"Early in my career as a shoe salesman, I noted that my employer handled only a limited line and the line that he did carry was the best of its kind but one upon which the profit was very nominal.

"I have applied that same principle in the tractor orchard care business. I saw that by building up a steadily increasing clientele of satisfied customers with their repeat orders, I would, even with a very modest profit to myself, be building up a business that in its volume would be my greatest asset."

"Jobs" of All Sizes

No job is too small; a minimum of $10 being charged. Nor does Mr. Caspari charge for time on the road between jobs. Service recorder clocks on the tractor record every stop and jobs are billed "by the clock."

Payrolls have steadily mounted until $2400 a month for nine months of the year was reached last year. At the peak this spring several tractors were run night and day as new contracts piled up with direct mail advertising of the cut in prices for tractor work. Drivers get 45 cents an hour up to six hours and for the next four hours the rate advances 10 cents each hour to the tenth hour and remains at that rate—85 cents—for all time beyond the tenth hour.

Tractor operating and maintaining costs are closely figured by Caspari. His monthly sheet for individual tractors contains these items for each day of the month: hours of operation, service, shop, repairs, gas, oil, grease, rear, total costs, income, net returns.

Caspari also gets the business of the Oriental, who has learned that tractors can do the work of vegetable gardening cheaper than his women and children working on hands and knees. His annual message to the Oriental is printed in Japanese characters.

Caspari doesn't moralize. He deals in facts, and human contact with soles has taught him how to meet, sell and service the public so that it will not only remain sold but will sell others.

Problems of the Apple Industry

(From Page Nine)

uniform standards in grades and packages and fewer varieties of several commodities, appears the chief reason why progress has been so slow.

Notwithstanding the strong trend towards more uniform grades, one is still able to find on such important markets as the Chicago South Water Market an assortment of grades. One day last winter a Chicago wholesale house had an sale apples from some half dozen States, bearing the following grades stamped on the containers: A 2½ inch, B 2¼ inch, No. 1, No. 2, U. S. I, Extra Fancy, and Prime No. 1. While there is a close resemblance between the definitions of grade terms used for the various groups of grades, in several cases the difference is sufficient to cause more or less confusion in the minds of those who have to contend with these grades. Nearly all of the important apple producing States in the barreled region have adopted the United States grades as their official standards and in a number of States these grades are compulsory. The western States packing apples in boxes have established individual State grades.

From the Bible we learn that in the very beginning an apple was used to accomplish the fall of man. From this one variety (the name of which history fails to record) countless other varieties have sprung and more than 800 varieties are being grown commercially today. New York alone has some 250 commercial varieties. Most of these are little known outside of the immediate vicinity in which they are grown, and usually the sale price is not based on the prevailing market for the so-called standard varieties. The point to be emphasized is that these "off" varieties now cost as much to produce as the standard varieties, and they bring less. The grower should by all means study the needs of the trade as reflected over a period of years, paying particular attention to variety preferences for the various markets, and should plant his orchard accordingly. It takes years to create a bearing orchard and the grower should plant with the thought in mind that it is to become a permanent investment.

Fruit Conditions for 1929

(From Page Four)

Apricots—The "cot" harvest is about complete and although the average size was not up to expectations, the tonnage was a little larger than forecast heretofore. Considerable brown rot also developed at maturity in the fruit in the coastal counties. Production is now forecast at 184,000 tons, which may be compared with a total crop of 175,000 tons in 1928.

Plums—There are not quite as many plums as reported a month ago. Production is forecast at 39,000 tons, while a year ago there were 66,000 tons harvested. Interstate shipments to August 4, inclusive, total 2287 cars compared with 4381 to the same date a year ago and a total for the season of 4678.

Prunes—A decline occurred in the condition of prunes which was brought about primarily by the very high temperature of late June and early July. The "drop" was heavy in the Sacramento and San Joaquin Valleys but particularly so in the Visalia district of Tulare county. The presence of red spider is quite generally reported but seems to be more serious in the Santa Clara Valley. Based on the present outlook, the crop will probably amount to 122,000 tons. Last year the production of prunes was 220,300 tons, while in 1927 it was 225,000 tons.

Oranges and Lemons—The full effects of the very warm weather which occurred during late June and early July have now become apparent. The "drop" was unusually heavy and general throughout the orange districts of the State. Navel oranges are now estimated at 58% of normal and Valencias at 60. This may be compared with a condition of 70 for both Navels and Valencias a month ago and 93 in 1928.

Lemons declined only one point during July. The condition is estimated to be 64% of normal compared with 88 a year ago.

Grapes—From present indications the 1929 California grape crop will be the smallest since 1924. The Raisin grape production is forecast at 28% per cent less than the crop produced in 1928; Table grapes, 24% less; and Wine grapes, 13% less. The final outcome may be above or below these August 1 estimates, depending on whether or not conditions become more or less favorable. Recent plantings have been small and not large enough to maintain the acreage. As nearly as can be estimated, 20,270 acres of vines of all varieties were removed last winter and spring. As a result, the 1929 bearing acreage of all grapes is estimated at 639,927 acres compared with 653,483 a year ago.

The August 1 condition of Wine grapes indicates a production of approximately 420,000 tons. This may be compared with 482,000 tons produced in 1928, of which 18,000 tons were not harvested. Two years ago the crop amounted to 473,000 tons. Plantings of grapes of wine varieties the past few years have been more than sufficient to maintain the bearing acreage. Although there was some acreage removed the past winter, it is estimated that there are in bearing this year 180,891 acres, compared with 176,187 acres in 1928.

The total production of Table grapes is expected to be about 361,000 tons. Last year the crop amounted to 478,000 tons, of which 75,000 tons were not harvested. In 1927 there were about 142,000 tons left unharvested out of a crop of 490,000 tons. All leading varieties promise somewhat lighter yields than a year ago. Malagas and Tokays from present indications are shorter than Emperors. Plantings of Table grapes have been small and inasmuch as about 7000 acres were removed last winter, the bearing acreage is now figured at 132,886 acres compared with 138,857 in 1928.

A crop of 1,010,000 tons of Raisin grapes (fresh basis) is expected this year compared with 1,406,000 produced in 1928 and 1,443,000 tons in 1927. It is impossible at this time to estimate what part of the 1929 raisin grape crop will be shipped fresh and what part will be utilized in the production of raisins. In 1928, however, 1,044,000 tons were utilized for drying (drying ratio 4-1), 302,000 tons marketed fresh, and 60,000 tons not harvested. This may be compared with 1,140,000 tons used in the production of raisins and 303,000 marketed fresh two years ago. Although the production of both Muscats and Thompson Seedless will be somewhat under that of 1928, the condition of the Muscat crop is a little better than that of Thompsons at the present time. Practically no plantings of Raisin grapes have been made the last few years. Furthermore, about 12,000 acres were removed last winter and the 1929 bearing acreage is estimated at 326,150 acres compared with 338,439 the year previous.—N. I. Nielsen.

COLORADO

August 1—The total apple crop is estimated at 2,572,000 bu. In 1928, a total of 3,020,000 bu. was harvested, and the 5-year average from 1923-27 was 3,054,000 bu. The condition on August 1 was 64%, compared with 68% in 1928 and a 10-year average, 1918-27, or 70%. The commercial production in 1929 will probably amount to 730,000 bbls., compared with 900,000 bbls. in 1928 and a 5-year average, 1923-27, of 856,000 bbls. Condition of peaches: 75% in 1929; 65% in 1928; 10-year average, 1918-27, 66%. Estimated production in 1929, 930,000 bu., compared with 600,000 bu. in 1928 and 798,000 bu. for the 5-year average. The estimated 1929 pear crop of 518,000 bu. is considerably in excess of the light 1928 crop, when 185,000 bu. were harvested, and slightly larger than the 5-year average of 501,000 bu. Conditions, August 1, 1929, 80%; 1928, 61%; 10-year average, 1918-27, 84%. The 1929 grape crop is forecast at 355 tons, about the same as that harvested in 1928, 357 tons. The 5-year average, 1923-27, was 294 tons. The crop condition is reported at 83%, compared with 77% in 1928 and the 10-year average of 82%.—U. S. Crop Report.

CONNECTICUT

August 12.—It is my opinion, based on personal observation and conversations with the larger growers, that the apple crop is at least 35% less than last year. McIntosh are at least 45% less than last year, even though there is an increased bearing area with the young trees coming on. Rhode Island Greening are light, but some growers predict a fair crop of Baldwin. Gravenstein, while not a large factor in the Connecticut markets, are light. A great variation exists in the crop of odd varieties throughout the State.—S. P. Hollister.

DELAWARE

August 9.—Staymans will probably be 40% to 50% less than last year, Romes probably 15% to 25% less, Ben Davis and Gano probably 15% to 25% less, Nero and York about the same as last year.—W. T. Derickson.

FLORIDA

August 7.—Prospects for Florida citrus have changed but little and indications are for a production materially under that of the past season. There has been some late bloom but not enough to make any material change in the outlook for the crop.

Oranges are reported at 62% of normal compared with 63% on July 1 and 84% on August 1, 1928. Grapefruit and tangerines are both reported at 57% of normal, the same as a month ago. In 1928, August 1 condition for grapefruit was 79% and for tangerines, 82%. Prospects for satsuma oranges are better than a year ago, with August 1 condition reported at 70% compared with 70% on July 1 and 61% on August 1, 1928. Avocado pears are doing well in South Florida.

Harvesting of the commercial grape crop was nearly completed by the end of June. Yields were not very heavy and production was about like that of a year ago. Production of blueberries is gradually increasing and this year a number of solid cars have been shipped.

Progress in the eradication of the Mediterranean fruit fly has been encouraging. With the removal of host plants and frequent spraying of trees, the fruit fly has become scarce even in sections originally showing the heaviest infestation. As a result of experimental work it appears that methods have been devised by means of which fruit may be so processed as to remove all danger of infestation and render it safe for shipment. While no ruling to this effect has been made, it is believed that this will enable most of the fruit of the State to be shipped. There is no intention of shipping any fruit known to be infested. Removal of host plants will be continued and the shipping season shortened as a part of the eradication program.—H. A. Marks.

GEORGIA

August 1.—The prosperity of Georgia farm products for 1929 rival the banner year of 1919. A conservative estimate of the value of the principal horticultural crops for Georgia is as follows: Watermelons, $6,000,000; peaches, $5,000,000; apples, $750,000; pecans, $1,000,000.

Georgia's watermelon crop looks like it will surpass or equal the large crop of 1926, which was 20,358 cars. With the heavy movement of 1000 cars or more a day going into terminal markets lasting over a period of 10 days, the prices held up unusually well.

The peach season in Georgia will soon be past history for the season of 1929. On July 26, Georgia had shipped 5219 cars, having an estimated value for 1929 of $5,000,000. This is the smallest number of cars shipped since 1917, when Georgia moved 3869 cars.

The peach season started off with a large number of curculio that came through hibernation after a mild winter. During the blooming season, in some sections of the peach belt, rain fell almost every day, making pollination a little more difficult. Blooming of late varieties was very irregular, making the control of curculio more hazardous. Other factors that have added to the decrease of potential producing power of Georgia peaches are phony peach disease, lack of finances, and discouragement, after heavy producing years of 1926 and 1928, which brought losses to a great many peach growers. A peach tree census is being made in Georgia and it is estimated that during the last three years it will reveal that Georgia has decreased her peach industry from three to four million trees.

A car of peaches shipped by one of Georgia's best peach growers sold on the New York market on July 22d as follows: 310 crates of Elbertas at $4.25; 135 crates for $4, and three crates for $3.75, a total of $1,867.75 for 448 crates of Elberta peaches. This was the first of a total of 23 cars sold from a 7-year-old peach orchard of 5000 trees.

The apple crop of north Georgia is of much better quality than that of 1928, and about the same number of cars will be shipped this year as moved from Georgia last year.—George H. Firor.

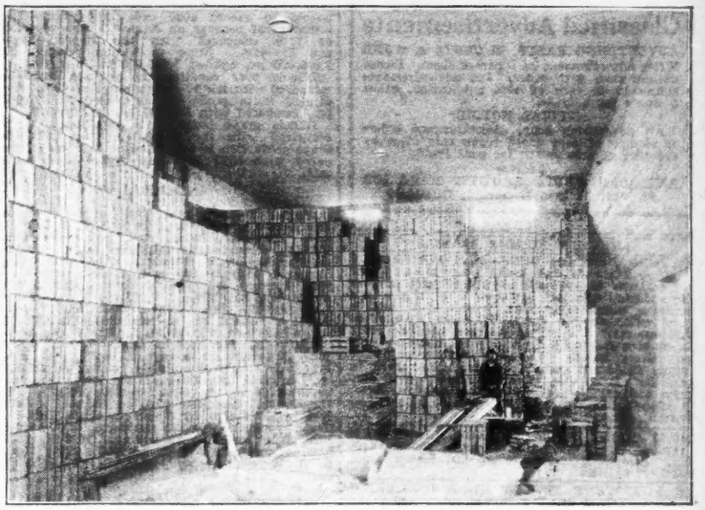
IDAHO

August 1—Condition of apples on August 1, 1929, 76%; 1928, 78%; 10-year average, 1918-27, 69%. Total production: 1929 estimate, 4,940,000 bu.; 1928, 5,000,000 bu.; 5-year average, 1923-27, 4,801,000 bu. Commercial production: 1929 estimate, 1,349,000 bbls.; 1928, 1,500,000 bbls.; 5-year average, 1923-27, 1,340,000 bbls. Apple crop remarkably clean due to efficient spraying. Peach crop conditions: 1929, 71%; 1928, 85%; 10-year average, 1918-27, 46%. Production: 1929 estimate, 281,000 bu.; 1928, 335,000 bu.; 5-year average, 1923-27, 170,000 bu. Condition of pears: 1929, 65%; 1928, 86%; 10-year average, 1918-27, 68%. Production: 1929 estimate, 57,000 bu.; 1928, 72,000 bu.; 5-year average, 1923-27, 59,000 bu. Grape production for 1929 is forecast at 287 tons, compared with 298 tons in 1928, and a 5-year average, 1923-27, of 283 tons. Condition on August 1, 1929, was 83%, compared with 90% in 1928 and a 10-year average, 1918-27, of 82%.—U. S. Crop Report.

ILLINOIS

August 1.—The fruit production outlook varies from the largest crop of peaches ever produced in Illinois to fair crops of pears and grapes and a rather short apple crop. Apple conditions are extremely irregular this season and vary from a failure to a fair crop. Summer apples were mostly a fair crop but late varieties are a poor crop, with the possible exception of a few varieties, such as York and Grimes. Complaints of scab and blotch are quite general. Spraying and care of some orchards have not been as thorough as usual this season due to the poor crop outlook. The condition of apples on August 1 was reported at 46% compared with the 10-year average of 53%. State production prospect is 5,750,000 against 7,150,000 bu. for 1928. Illinois commercial apple crop is placed at 1,071,000 bbls. against 1,240,000 bbls. for 1928.

Peaches are an exceptionally favorable crop this season with some exceptions chiefly in the extreme southern part of the State. The gathering of the peach crop will become general over the commercial belt during the first week of August. The commercial peach movement, in-



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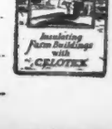

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HUNDRED HUNTING HOUNDS. TRIAL. C. O. D. Fur finders. Running fit. Other remedies, $1. Collar name, $1. Horns, $2. Feed, $5. Agents wanted. Catalog. Kaskaskia, M39, Herrick, Ill.

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WANTED—HEAR FROM OWNER HAVING good farm for sale. Cash price, particulars. John J. Black, Chippewa Falls, Wis.

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FOR SALE—FRUIT FARM—APPLES, GRAPES —70 acres—southern Kentucky. Bowling Green. Address Herdman & Stout, Agents.

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cluding the commercial truck movement, is expected to exceed 4000 cars this year. The condition of peaches on August 1 was reported at 77% compared with the 10-year average of 44%. State production prospect is 2,999,000 bu. against 1,638,000 bu. last year.

Illinois pear condition is reported at 58% compared with the 10-year average of 49%. Indicated State production is placed at 690,000 bu., compared with 500,000 bu. last year.

Illinois grape condition is reported at 78% compared with the 10-year average of 76% State production is estimated at 6778 tons compared with 6800 tons last year.—A. J. Surratt.

INDIANA

August 1—The total 1929 apple crop is forecast at 1,544,000 bu. In 1928, 2,520,000 bu. were harvested, while the 5-year average, 1923-27, amounted to 2,923,000 bu. Commercial production is estimated at 107,000 bbls., compared with 176,000 bbls. in 1928 and a 5-year average of 295,000 bbls. Conditions: August 1, 1929, 35%; 1928, 51%; 10-year average, 1918-27, 48%. Peach production is estimated at 738,000 bu., as compared with 695,000 bu. in 1928 and 429,000 bu. for the 5-year average, 1923-27. Condition on August 1, 1929, 61%; 1928, 50%; 10-year average, 1918-27, 38%. The 1929 pear crop will probably amount to 234,000 bu. In 1928, 288,000 bu. were harvested, and the average for the 5-year period, 1923-27, was 238,000 bu. Condition, 52% on August 1, 1929; 59% in 1928; 47% for 10-year average, 1918-27. Grape production: 1929 estimate, 4039 tons; 1928, 4980 tons; 5-year average, 1923-27, 3362 tons. Condition: August 1, 1929, 68%; 1928, 84%; 10-year average, 1918-27, 72%.—U. S. Crop Report.

IOWA

August 1.—The following fruit crop conditions are based on 100% for a normal crop: Summer apples, 58; fall apples, 58; winter apples, 53; pears, 40; plums, 45; grapes, 86; and peaches, 48.

The condition reports on summer, fall and winter apples by districts are as follows:

	Summer	Fall	Winter
	%	%	%
Northwest	71	72	71
North Central	56	58	57
Northeast	58	55	48
West Central	58	61	53
Central	52	51	50
East Central	59	62	55
Southwest	58	57	50
South Central	56	56	49
Southeast	61	56	51

The total production for apples of all kinds is 2,351,000 bu. of which 94,000 bbls. are commercial; the total production for grapes is 6450 tons; pears, 43,000 bu.; peaches, 45,000.

The condition reports would indicate that apple scab has been very bad this year. Up to August 1 few worms in sprayed orchards were reported.—Leslie M. Carl.

KANSAS

August 9.—In the Arkansas River Valley, the 1929 apple crop is approximately 20% larger than that of 1928. The principal increase is on such varieties as York, Winesap, Ben Davis, and Grimes. The quality of the 1929 crop in the valley is somewhat below that of previous years. In northeast Kansas the 1929 crop is approximately 15% larger than that of last year but not as large as the record crop of 1927. The quality of fruit in this section is fairly satisfactory.

The codling moth situation over the State is satisfactory. Indications at the present time are that the growers have secured very satisfactory control of this pest this year.

The above information has largely been supplied by H. L. Lobenstein, extension horticulturist, who is in close touch with the fruit growers over the State.—William F. Pickett.

KENTUCKY

August 15.—We have had a very light set of most varieties of apples. Especially is this true of the Winesap. This variety constitutes more than 75% of the commercial plantings; therefore, our prospects for this crop are very poor. Considerable damage resulted from hail, and owing to unusually wet weather, there is more or less scab injury. Possibly a lesser per cent of damage than usual will result from worms. Taken altogether, I would say that Kentucky will not market more than 40 per cent of a normal crop.—Ben E. Niles.

August 19—The April 16 frost fixed most of our crop, after a wonderful bloom and fine pollinating weather. Probably 3% to 5% of a crop left. Scab, which early sprays did not seem to control, is very prevalent. Twig blight is also prevalent, probably as a result of uncared for pear trees scattered over the country side. We are experimenting with deep rooted legumes in the orchard for a continuous supply of nitrogen and it looks now like a good thing. No signs of nitrogen starvation anywhere. Very patchy set of apples last year, though on the whole we had a big crop, and we were anxious to see what effect, if any, the new source of nitrogen would have on the set. We hope for a better chance next year.—H. Van Antwerp.

LOUISIANA

August 12.—We grow very little fruit with the exception of strawberries. There are some peaches grown in north Louisiana but they are not a very large commercial business. The fruit crop this year is rather small.—Harry D. Wilson.

MAINE

August 1.—The total apple crop in Maine is now forecast at 2,408,000 bu., or almost double that of last year but slightly below the average. Commercial apple prospects indicate 496,000 bbls. this year compared with 287,000 bbls. last year and 538,000 bbls. for the five year average. Injury from scab and insects has been very light this season but owing to the dry weather there was a rather heavy drop during June and July. Although Baldwin prospects are the lowest for the past three years, McIntosh, Greening, Ben Davis and Wealthy are the highest during that period. For New England, commercial apples are expected to total 1,560,000 bbls. compared with 1,479,000 bbls. last year and 1,921,000 bbls. the 1923-27 average. Prospects for other fruits are very good.—C. D. Stevens.

MARYLAND

August 1—Total apple production is forecast at 2,115,000 bu., as compared with 2,190,000 bu. in 1928 and a 5-year average, 1923-27, of 2,250,000 bu. Commercial production is estimated at 418,000 bbls., as compared with 1928 harvest of 442,000 bbls., and a 5-year average, 1923-27, of 420,000 bbls. Condition reports on August 1: 49% in 1929, 52% in 1928, and 55% for the 10-year average, 1918-27. Peaches are estimated at 518,000 bu. In 1928 a crop of 465,000 bu. was harvested, and the 5-year average, 1923-27, was 505,000 bu. The condition report of 64% is 10 points higher than the 1928 report and the 10-year average, 1918-27, report. The production of pears is estimated at 236,000 bu., as compared with 193,000 bu. in 1928 and 315,000 bu. for the 5-year average, 1923-27. The condition report is 50%, as compared with 53% in 1928 and a 10-year average, 1918-27, of 55%. The grape crop is figured at 1341 tons. In 1928, 1200 tons were harvested. The 5-year average for 1923-27 was 997 tons. August 1 condition: 1929, 76%; 1928, 77%; 10-year average, 1918-27, 75%.—U. S. Crop Report.

MASSACHUSETTS

August 1—The commercial condition of apples is rated at 53% as against 58% in 1928 and a 10-year average of 62%. The commercial production is forecast at 530,000 bbls., as compared with 578,000 in 1928 and a 5-year average, 1923-27, of 668,000 bbls.

Commercial apple prospects in New England declined 6.6% during July. Production is now forecast at 1,560,000 bbls., compared with 1,671,000 bbls. expected a month ago, 1,479,000 bbls. harvested last year and 1,921,000 bbls. the average crop of the preceding 5 years. The prospect is 5.5% greater than last year's harvest but 18.8% less than the 5-year average. Over most of New England the apple bloom was quite heavy and the set fair. Dry weather during June and July caused a heavy drop so that only a light crop is now in prospect. Insect and disease damage has been light to average for the important varieties. The McIntosh apple crop, although only moderate, is much better than the light crop of a year ago. Baldwins are expected to be a light crop in all parts of New England. Other varieties promise only moderate to light crops. Peaches and pears in New England indicate only moderate crops.

MICHIGAN

August 10.—Apples declined eight points in condition during the month with a resultant decrease in the forecasted production for the total crop of 40,000 bu. Dropping was general except in the west central and southwest districts which comprise the commercial area. While there was a decline in these districts, it was much less in amount. Reports indicate that scab infestation is serious in many orchards. The winter varieties seem to be a better prospect than the summer and fall, Spys and Baldwins being mentioned as best, while Jonathans, Delicious and Greenings were reported as a light crop. Winter varieties were also reported as better in quality than summer and fall.

The peach crop is estimated at 813,000 bu., which is 30% lower than the final production for last year and 12% below the 10-year average. The condition is very spotted.

The August estimate for pears is for a crop 292,000 bu. smaller than the 1928 production figure. The reports from the commercial areas indicate only 20% to 30% of a full crop.

The present indications on grapes point to a final production 7% below last year's. The set is better and the bunches larger than last year. Some rot has developed in the commercial districts but has not been reported as serious.

Plums stand one point lower in condition than a month ago. The decline was greatest in the eastern districts.

The percentage of a cherry crop as reported on August 1 showed a slight gain over a month ago but remained 21% below last year's figure and 9% under the seven-year average. The crop was generally light in the southern districts but increased in amount northward and amounted to 60% of a full crop in the Grand Traverse region.

Dry weather and extreme heat during the last 10 days of the month shortened the yield of blackberries and raspberries. The production is estimated at 60% of a full crop.—V. H. Church.

MINNESOTA

August 9.—I have not been out in the apple growing district enough to know very much about the commercial apple crop for this year. I am told in some parts of the State a light crop is expected while in others a good crop will be harvested.—R. S. Mackintosh.

MISSISSIPPI

August 1—Production of peaches, apples and pears this season is about 25% smaller than in 1928, but averaged only about 8% below the 5-year average productions of these crops. The August 1 condition of the pecan crop is reported as 49% of normal, compared with 71% on August 1, 1928. In the United States the condition of pecans on August 1 was reported at 51% of normal, compared with 55.1% on August 1, 1928, and a 5-year average for August 1 of 54.6%. Reported conditions are particularly low in Georgia, Florida, Alabama and Louisiana.—D. A. McCandless.

MISSOURI

August 1—Total apple crop: 1929 estimate, 3,623,000 bu.; 1928, 3,380,000 bu.; 5-year average, 1923-27, 4,518,000 bu. Commercial crop: 1929 estimate, 515,000 bbls.; 1928, 474,000 bbls.; 5-year average, 1923-27, 590,000 bbls. Condition August 1: 45% in 1929; 43% in 1928; 49% for 10-year average, 1918-27. The peach crop of 1,185,000 bu. is considerably above that of 1928, when 655,000 bu. were harvested, and is also above the 5-year average, 1923-27, of 966,000 bu. Condition is reported as 47% at this time, as compared with 27% at this time last year and 36% for the 10-year average, 1918-27. Pear conditions show 49% on August 1, 1929, as compared with 30% on August 1, 1928, and a 10-year average, 1918-27, of 44%. The forecast is for a crop of 349,000 bu. A total of 171,000 bu. was harvested in 1928, and the average production for the 5 years, 1923-27, was 387,000 bu. The grape forecast is for a crop smaller than that of last year but larger than the average for 5-year period, 1923-27. 12,540 tons are forecast for 1929, as compared with 14,000 in 1928 and 7804 for the 5-year average. Condition reports: August 1, 1929, 76%; 1928, 84%; 10-year average, 1918-27, 72%.—U. S. Crop Report.

MONTANA

August 14—Prectically the only fruits produced in this State in sufficient volume to make an impression upon the market are apples and pie cherries. The cherries this year were a good crop and are all going to the local canneries. The season will soon close. Apples at present show about a normal crop, slightly better than last year.—George L. Knight.

NEBRASKA

August 12.—The condition of apples is 59% and the indicated production 818,000 bu., as

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compared with 470,000 bu. last year, and 5-year average of 646,000 bu. The commercial apple crop is estimated at 88,000 bbls. against 50,000 bbls. last year. Pears are rated at 58% with a crop of 28,000 bu. against 12,000 bu. last year. Peaches are estimated at 45% and a crop of 50,000 bu., against 6000 bu. last year.—A. E. Anderson.

NEW HAMPSHIRE

August 1.—Commercial apples in New Hampshire are forecast at 188,000 bbls. compared with 205,000 bbls. harvested last year and 233,000 bbls. the 5-year average. The total crop, at 924,000 bu., is only slightly less than that of last year and the average. McIntosh prospects are better than last year but less than two years ago, while Baldwins promise the lightest crop in the past three years. Prospects for most of the other varieties are lower than last year. Damage from scab and insects to the more important varieties has been light to average this season. For New England the commercial apple crop is forecast at 1,560,000 bbls. compared with 1,671,000 bbls. indicated a month ago, 1,479,000 bbls. harvested in 1928 and 1,921,000 bbls. the 5-year average.—C. D. Stevens.

NEW JERSEY

August 1—Dry weather has caused a further decline in the condition of apples during July. Winter varieties are extremely light in most sections. Fair crop of early varieties. August 1, 1929, condition, 48%, as compared with 59% in 1928 and the 10-year average, 1918-27, of 64%. Total production in 1929 is forecast at 2,346,000 bu., as compared with 3,290,000 bu. in 1928 and 2,934,000 bu. for the 5-year average, 1923-27. Commercial production: August 1 estimate, 537,000 bbls.; 1928, 746,000 bbls.; 5-year average, 1923-27, 649,000 bbls. The August 1, 1929, forecast of the peach crop is 2,525,000 bu., as compared with 1,025,000 bu. in 1928 and 2,437,000 for the 5-year average, 1923-27. Condition on August 1, 1929, 74%; 1928, 51%; 10-year average, 1918-27, 66%. Pear condition shows 46%, with an estimated crop of 383,000 bu. for this year, compared with 502,000 bu. in 1928, when condition showed 59% at this time. Average crop for 5-year period, 1923-27, 573,000 bu. Average condition on August 1 for 10-year period, 1918-27, 58%. The forecast for grapes is 2659 tons, as compared with 2822 tons in 1928 and 2427 tons for the 5-year average, 1923-27. Condition on August 1, 1929, 79%. On the same date last year, 87%, and for the 10-year average, 1918-27, 81%.—U. S. Crop Report.

NEW MEXICO

August 12.—On the whole, the fruit crop in the southern part of the State is very good. In the lower Rio Grande, particularly in the Mesilla Valley, which is irrigated from the Elephant Butte dam, there is a fair to excellent crop. I do not know when there has been such a large crop of fruit of all kinds, including the sweet cherries and Japanese plums which usually fail when other varieties succeed in this district.

Growers are in the midst of shipping the Bartlett pear. As soon as the Bartlett pear crop is gone, the shipping of Jonathan apples will start, about August 20. Elberta and J. H. Hale peaches are being shipped now. Contracts are now being made by fruit growers for the winter apple crop. In the other southern irrigated valleys, the shipping of these fruits is also going on, although in some the crop is not as large as in the Mesilla Valley. In the northern part of the State the crop is not as good as usual. There the same varieties that are now being shipped from the southern part are not as far advanced, on account of the higher altitudes of the agricultural localities. —Fabian Garcia.

NEW YORK

August 8—That the prospects for a large apple crop are not of the best can be seen from the present State forecast of about 18,860,000 bu. compared with 21,900,000 bu. last year and a 5-year average of 26,695,000 bu. It seems probable that the not shipping areas of the State will ship 11,000 to 12,000 cars, compared with 13,648 shipped last season, providing the same proportion of the total crop is shipped by rail as from the last crop. The most striking feature is that Baldwins, the major variety, is the best since 1926, while Greening is relatively poor. Extremely dry weather in the Hudson Valley, and moderately dry weather in western New York, has helped to hold scab in check, but it obtained such a thorough foothold during the wet spring that conditions are not good. Aphis has been reported as very prevalent in western New York. The early apples which are beginning to ripen in the Hudson Valley are small in size. Should dry weather continue, this will be a serious factor in reducing yield. In western New York the aphis damage will have a bad effect on size and quality where the infections are general. It is probable that, should the right amount of rainfall come, size of fruits would increase so that the final outturn might overrun present estimates. On the other hand, either excessive rainfall or extremely dry weather could easily cut the yield below present prospects. The following figures, expressed as per cent of a normal or full crop, are reports as to the condition of the commercial crop on August 1:

	1929	1928	1927	1926
All varieties	40.7	45.7	34.3	70.3
Various Varieties—				
Duchess	45	65	45	77
Wealthy	56	63	48	74
Baldwin	49	30	34	65
Greening	30	52	24	76
N. Spy	39	33	49	33
McIntosh	38	29	44	44
Ben Davis	42			

In our local markets, good packs of summer and fall apples are selling from $1.75 to $2.50 per bushel.

Pear production will be light this year. It is now forecast at about 1,069,000 bu. compared with 1,800,000 bu. last year and the past 5-year average of 2,021,000 bu. Canners are paying from 3 to 4½ cents per pound in western New York for good canning stock. Clapp's Favorite, which are now coming on the market, are selling locally and in New York City at from $2 to $3 per bushel for a good grade.

Peach production promises to be considerably lighter than last year and lighter than average, 1,747,000 bu. this year, 2,400,000 bu. last year and 1,848,000 bu. for the 5-year average.

Grape production promises to be better than average, although below that of last year. From the present condition the crop is forecast at 76,000 tons. Last year about 85,470 tons were produced. During the past five years the average production has been about 70,412 tons.—R. D. Van Buren and State Agricultural Statistician.

NORTH CAROLINA

August 1—Apple crop very short this year, but outturn fairly well anticipated a month ago. Many commercial orchards producing only a small per cent of a crop. Late spring conditions largely responsible for the shortage. The peach crop has decidedly declined during the month of July, not from the point of production but from salability. Crop has turned out to be wormy. The commercial crop is most all harvested. Pears promise a crop of 169,000 bu., as compared with 234,000 bu. in 1928 and 175,000 bu. for the 5-year average, 1923-27. August 1 conditions were: 1929, 43%; 1928, 60%; 10-year average, 1918-27, 46%. The grape crop is largely limited to the Muscadine. The condition report on August 1 estimated the crop at 73%, as compared with 82% in 1928 and a 10-year average, 1918-27, of 78%. The forecast on August 1 was for a crop of 6382 tons. In 1928, 6000 tons were harvested, and the 5-year average, 1923-27, was 5871 tons.—U. S. Crop Report.

OHIO

August 1—The apple crop is considerably below that of last year, as well as below the 5-year average. Total production for 1929 is forecast at 2,730,000 bu., as compared with 5,880,000 bu. in 1928 and a 5-year average, 1923-27, of 8,509,000 bu. Condition as reported on August 1, 1929, is 21%, as compared with 42% at the same time last year and 47% for the 10-year average, 1918-27. Commercial production is forecast at 273,000 bbls. In 1928, 549,000 bbls. were harvested. The average production for the 5-year period, 1923-27, was 790,000 bbls. Prospects for peaches are not greatly different from July 1. The forecast for August 1, 1929, was for 584,000 bu. The crop was considerably in excess of this, 1,742,000 bu. being harvested. The 5-year average, 1923-27, was 1,346,000 bu. Condition report on August 1, 1929, was for 21% of a crop, as compared with 63% on the same date last year, and 42% for the 10-year average, 1918-27. Many report that peaches are rotting on the trees and are dropping. The crop is very light in the important commercial peach area of north-central Ohio. Central and southern Ohio have relatively much better crop prospects this year than does northern Ohio. Spring frosts and freezes have resulted in a very light pear crop, the forecast being for 140,000 bu., or 24% of a crop. In 1928 the condition on August 1 was 65%, with a crop of 395,000 bu. The 5-year average production, 1923-27, was 338,000 bu. The 10-year average condition, 1918-27, was 49%. Reports from all parts of the State indicate that grapes are rotting badly. If this condition continues, crop will be much lighter than now expected, 17,150 tons, or 49%. Condition on August 1, 1928, was 82%, with a crop of 28,700 tons, while the 10-year average condition, 1918-27, was 73% and the 5-year average production, 1923-27, 20,521 tons.—U. S. Crop Report.

OKLAHOMA

August 13.—We have had better than an average peach crop this year, in fact, the crop was good in all parts of the State except in a portion of the northeastern part. The main peach season is just about finished. Taken as a whole, we have above an average apple crop. The grape season is on at present but the quality is not extra. There has not been a very heavy set and because of wet cool weather there has been an unusual amount of black rot. There are only a very few pears orchards, but the crop is unusually heavy. The plum crop is better than the average.—D. C. Mooring.

OREGON

August 14—Fruit crop conditions are at the present time as follows: Apples, 6,663,000 bu. estimated total production, of which about 4,200,000 bu. are commercial. This compares with 4,800,000 bu. commercial crop in 1928. Pears, 2,090,000 bu., as compared with 2,700,000 bu. last year. Peaches, 208,000 bu., as compared with 292,000 bu. last year. Grapes, a crop of minor importance in Oregon, are predicted at slightly less than 2000 tons, compared with slightly more than 2000 in 1928.

Prunes, for Oregon and Clarke county, Washington, combined, the latest estimates about 27,500 tons of dried prunes. This is considerably in excess of the extreme short crop of 1928 of 2750 tons. It is also materially above the average production for this same territory. The eastern Oregon fresh prune shipping districts are expecting a crop slightly less than their 20,000-ton crop of 1928, but are expecting much better prices, due to the shortage of competing fresh fruit.

Size and quality of all fruits are exceptionally good this year and barring accident between now and harvest, the quality and grade will be considerably above the average.—C. L. Long.

PENNSYLVANIA

August 10.—There has been a general decline in the condition of all fruits, except grapes. Apples are showing considerable injury from scab, aphis and russeting. A great many growers report that both apples and peaches continue to drop heavily, which has been the case throughout the growing season. However, the decline in prospects in commercial orchards in the Cumberland-Shenandoah region has been relatively light. The commercial crop of peaches should begin to move during the week of the 26th, and the August first forecast indicates that production will be even lighter than the July first report, which showed a decided decline over last year's production. The August first report for apples also indicates a lowering of the previous month's estimate, due to continued dropping of the fruit.—George A. Stuart.

RHODE ISLAND

August 9.—The extreme drought of nearly two months' duration is beginning to take its toll among the orchards in the State. July's outlook was that this State would have a crop of apples slightly in excess of 1928 if the season were favorable. Since that time a large volume of the fruit has begun to drop and those apple men whose orchards are located on soil that has a tendency to dry out readily are becoming very discouraged. The supply of early apples arriving in the markets is considerably less than last year and the quality is only fair. I believe that it would not be stretching the truth too much to state that the condition of fruit is not more than 50% of normal.—M. H. Brightman.

SOUTH CAROLINA

August 17—The apple crop in this State this year is about 75% of a normal crop. However, the apple crop in this State amounts to very little, since we have only a few commercial orchards. The Stark's Delicious variety will be ripe this year the first week in September. The codling moth is very little in evidence this year in contrast with the previous three or four years, when the infestation was heavy. The peach crop has been picked and shipped, and grapes are about over.—A. M. Musser.

TENNESSEE

August 10.—The apple crop is rather light, not more than 50% of a crop. At present the fruit is of fair quality. Some orchards give indications of producing higher quality fruit than average, while most of the orchards have suffered rather severely from attacks of scab and blotch. Bitter rot is showing up to a certain extent in some middle and west Tennessee orchards but the growers believe that thorough summer spraying with Bordeaux will keep it under fairly good control. The crop gives promise of ripening rather early. This will make it rather difficult to secure the best color and finish on the fruit. The pear crop is rather light, due to a severe attack of blossom blight, but the fruit that will be harvested will be of very good quality. Some sections of Tennessee are suffering from drought which will adversely affect the crop unless rains fall in the near future.—E. M. Prather.

TEXAS

August 1—The total apple crop is estimated at 268,000 bu., as compared with 216,000 bu. in 1928 and a 5-year average, 1923-27, of 283,000 bu. The condition report on August 1, 1929, was 66%, as compared with 42% at the same time last year, and 55% for the 10-year average, 1918-27. The 1929 peach crop is forecast at 2,118,000 bu. In 1928, 1,612,000 bu. were harvested, and the 5-year average, 1923-27, amounted to 1,682,000 bu. Conditions as of August 1 were: 1929, 69%; 1928, 52%; 10-year average, 1918-27, 51%. The early crop of peaches turned out better than was expected, but in many localities the peaches now on the trees are poor because of the dry weather. The pear crop will be larger than last year, the estimate being for 585,000 bu., as against 390,000 bu. in 1928. The 5-year average, 1923-27, was 427,000 bu. Condition on August 1, 72% in 1929, 45% in 1928 and 59% for the 10-year average, 1918-27 Grape production is forecast at 1529 tons, or 78%. In 1928 there were harvested 1440 tons of grapes, or 69%. The 5-year average, 1923-27, was 1176 tons, and the 10-year average condition, 1918-27, was 71%.—U. S. Crop Report.

UTAH

August 1—Condition of apples below that of a month ago. Crop had a poor start, being affected by late frosts and drought. Condition August 1, 1929, 69%; 1928, 81%; 10-year average, 1918-27, 76%. Total crop: 1929 estimate, 660,000 bu.; 1928, 880,000 bu.; 5-year average, 1923-27, 899,000 bu. Commercial crop: 1929 estimate, 141,000 bbls.; 1928, 190,000 bbls.; 5-year average, 1923-27, 198,000 bbls. The peach crop had a poor start, being affected by late frosts and by drought. Condition worse than a month ago. The estimated crop for 1929 is 510,000 bu., as compared with 612,000 bu. in 1928 and a 5-year average, 1923-27, of 553,000 bu. Condition on August 1, 1929, 62%, as compared with 81% on the same date last year and 68% for the 10-year average, 1918-27. Pears are considerably better than apples in principal pear county, namely, Utah county. Frost damage was probably not so severe on the Provo Bench in Utah county, where a good part of the pear crop is located, as it was in other parts of Utah county and in the other fruit areas. A crop of 83,000 bu. (76%) is estimated for 1929. In 1928 a crop of 67,000 bu. (78%) was harvested, and the 5-year average, 1923-27, was 60,000 bu. The 10-year average condition, 1918-27, was 75%. The condition of grapes on August 1, 1929, is given as 88%, as compared with 89% in 1928 and a 10-year average, 1918-27, of 90%. The forecast on August 1, 1929, was for a crop of 1422 tons, as compared with 1520 tons in 1928 and a 5-year average, 1923-27, of 1062 tons.—U. S. Crop Report.

VERMONT

August 7.—Very fine crop of apples in nearly all commercial orchards. McIntosh, the leading variety, is particularly heavy. Serious hail damage in some plantings. The crop is probably one-third larger than in 1928. Very complete dusting and spraying program carried out in all Vermont orchards of size.—E. H. West.

August 15—The outlook for a good apple crop materially improved during the last month. Reports from nearly all parts of the State, especially the commercial growers, indicate a large set of fine quality fruit.

Scab has not been serious this year. It is believed that the spring spore discharge took place before the foliage was sufficiently advanced to be exposed. Most of the disposal came before the buds were opened enough to expose the tiny leaves.

There is scarcely any codling moth injury, but there is a small amount of curculio sting. The curculio is becoming more serious each year in Vermont. Growers who applied the 7 and the 17-day spray following the calyx, controlled this pest very well.

Drought as yet has not limited the growth of apples. The large amount of sunshine has already started the color on the fruit.

Generally speaking, the crop in the State is of good size and very fair quality and promises an excellent harvest. The largest setting is on McIntosh and Delicious, with a fair crop on Spys, Greenings, Fameuse and Tolman.—M. B. Cummings.

August 14—Most growers in this section (Grand Isle) report a fair crop of apples, not a heavy crop but a larger one than the 1928 crop. McIntosh and Wealthy have set well. Spy and Rhode Island Greening are light. In orchards that have been sprayed five or six times, there is little scab and insect injury, much less than a year ago. The fruit is sizing up well in spite of dry conditions. Hail has hit some orchards in this section. The weather of July and August has been good for fruit growth. Growers have just finished thinning. Most growers thin the Wealthy and some go over the McIntosh, removing the poor fruit and lightening up heavy clusters to get good size. The local cherry crop has been heavy this season but not of sufficient commercial quantity to ship. They are sold locally.—Karl D. Webber.

VIRGINIA

August 12—Fruit prospects declined slightly during July. There is very little change in the apple forecast, but the production of peaches will not be as great as has been expected, due to damage from the oriental peach moth and to the smaller size of the fruit. The total apple production is estimated to be 12,974,000 bu., against 16,100,000 bu. last year. The estimated total peach production is 1,004,000 bu. as against 880,000 bu. in 1928.—Henry M. Taylor.

WASHINGTON

August 10.—We have no later authentic report than that of July 1, although various individual reports have been given which show a decided decrease over the report given by the growers from which the July 1 estimate was made. The apple crop estimate shows about 28,350,000 bu. as against 33,500,000 bu. in 1928, which makes the present estimate compare very closely with the five-year average, including 1923 to 1927, which shows 28,785,000 bu.—George E. Harter.

WEST VIRGINIA

August 1.—All fruit crops with the exception of grapes, have suffered from lack of rain and this condition is affecting the size and quality of the fruit. The condition of apples is 6% below the 10-year average, being placed at 38% and indicating a crop of 6,004,000 bu. as compared with 8,750,000 bu. harvested in 1928 and 7,076,000 bu. for the 5-year average production. The forecast for the peach crop of 581,000 bu. compares with 810,000 bu. in 1928 and 566,000 bu. for the 5-year average. The indicated pear production of 43,000 bu. compares with a crop of 63,000 bu. in 1928 and 54,000 bu. for the 5-year average production. The grape forecast of 988 tons compares with 1422 tons in 1928 and 1161 tons for the 5-year average.—Barnard Gibbs.

WISCONSIN

July 29.—Wisconsin will have a fair fruit crop according to reports of some of the leading fruit growers.

C. J. Telfer, president of the Wisconsin State Horticultural Society, writes as follows: "The cherry crop was about the same as in 1928 here in Green Bay. Prospects for apples are good. Our crop will be at least 50% heavier than last year. Dudley, Snow, Northwestern Greening, Delicious, Wealthy and McIntosh are exceptionally heavy. There have been few insects this year but there is a little scab on apples. Several growers have had a little trouble with raspberry diseases and insects."

J. J. McKenna of Gays Mills, manager of the Kickapoo Development Company, states that the prospects for apples are good. Wealthy, Snow and McIntosh are showing up best. Diseases and insects have not been very bad but there has been some hail injury and a little fire blight.

Fred Sacia of Galesville, one of the largest orchardmen of the western part of the State, says that prospects for apples will be fair. Farm orchards generally are bearing but a small crop of scabby apples. The commercial orchards that were sprayed thoroughly with a regular spray program are bearing a fair crop of clean apples. McIntosh, Jonathan and King Davis are absolutely clean. Delicious, Wealthy and other varieties show a little scab. There has been a little hail damage. There has been plenty of moisture so apples are running to good size. Insects were late and did but little damage. Something hit the Whitney crab which looks like curculio. It is quite apparent that the only scab infection this year came about April 25. Our 10-acre plot of Greenings blossomed but did not set. Delicious is our best crop. We have between 2000 and 3000 trees bearing, some with a full load.

Ralph Irwin, large apple grower at Lancaster, reports: "The apple crop is fair in our section. The June drop was less than usual. We have the heaviest set of McIntosh we have ever had. McIntosh, Wealthy and Tolman Sweet are showing up the best. This is an 'off year' for Greenings and Snows. Scab is much worse this year than the average but not so bad as in 1927. Curculio always does damage and buffalo tree hoppers are becoming worse. Owing to the heavy scab infection in farm orchards, the local market will be much better than usual."

A. K. Bassett of Baraboo states that in his section there is about 30% of a full crop. Wealthy and Northwestern Greening seem to stand the frost the best. Insects and diseases are not very bad this year. There was a heavy frost on May 19 in Baraboo section which got a great many of the best varieties.

Paul Grant of Menomonie, writes as follows: "We will have between 30 and 35 carloads of apples this year. We understand that the crop in farm orchards is light. Wealthy, McIntosh and Greening are equally good. Duchess are not as heavy as usual but they did not have many of them. Fire blight has been rather bad starting from blossom infection. Our fruit is perfectly clean and of good size. There is no scab on foliage or fruit."

Mr. Grant practices a very thorough system of spraying which probably accounts for the fact that his fruit is perfectly clean.—H. J. Rahmlow.

Fresh Peaches to Be Available Throughout Year

EXPERIMENTS are under way which may revolutionize the peach industry in Georgia, taking between 3000 and 5000 cars of peaches off the market during the rush season and making them available to customers throughout the entire year.

These experiments have been under way for some time, with the co-operation of the Georgia State Bureau of Markets, the United States Bureau of Markets, the A. B. & C. Railway, and the Georgia Manufacturers' Association, but will be tried out now on a large scale at the canning plant of Hill Brothers in Woodbury.

The plan is to peel the peaches and pack them with sugar in special fiber containers. These are hermetically sealed and then placed in cold storage. From six to eight peaches are placed in each carton.

On a small scale, the peaches have kept for months in good condition. Now 10,000 cartons of the peaches will be put up in this manner at the cannery, and if this experiment is as successful, it is believed that most of the crop can be saved until fall and winter, when it will bring fancy prices.—*J. H. Reed.*

WHAT THE CAMERA SEES

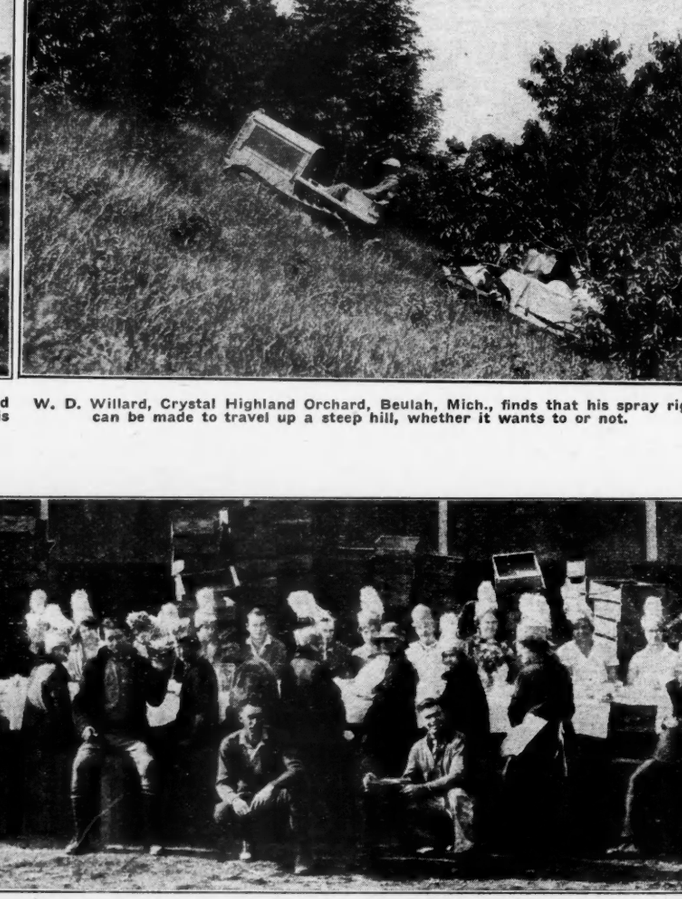
AMERICAN FRUIT GROWER MAGAZINE will pay Five Dollars for the photo selected each month as the PRIZE PHOTO, and will pay One Dollar each for other photos not receiving the prize money but which we are able to use. Send your photo, illustrating anything of interest to the fruit grower, with a short item telling the FACTS about the picture. Address photos to the Editor. If not suitable for our use, your photo will be returned

"The Rod that Budded." Edward Treichel, East Berlin, Conn., after using an applewood stake as a dibble when planting gladiolas, left the stake in the ground at the end of a row, where it took root, grew, and now measures nearly 10 feet in height.

This beautiful float was the contribution of Lancaster County (Pa.) Fruit Growers' Association to the bi-centennial celebration of the founding of Lancaster 200 years ago.

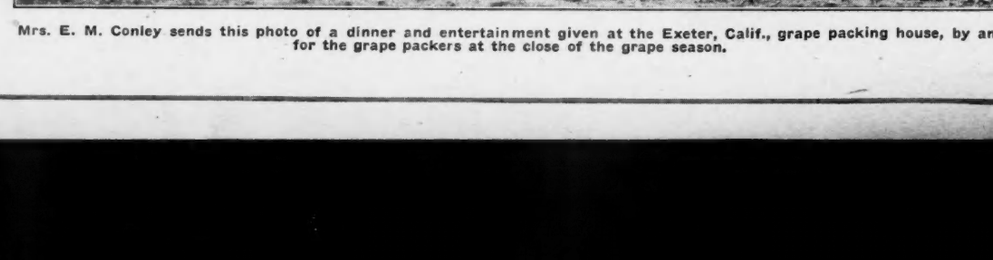
When eight-year-old Richard Rarig, in his father's orchard, Catawissa, Pa., has finished his job of grafting he can expect, within a few years, to pick large red apples from the Newfane grafts he is setting. The use of paraffin wax and the Merribrooke melter help to insure a successful job. (Prize photo.)

In the Marshall orchards, Fitchburg, Mass., the soft varieties are carefully picked into pails and lifted, not poured, into the orchard carriers. This extreme care is reflected in the higher prices received for the fruit.



W. D. Willard, Crystal Highland Orchard, Beulah, Mich., finds that his spray rig can be made to travel up a steep hill, whether it wants to or not.

Charles L. Frank's grove of grapefruit in the Lower Rio Grande Valley, Donna, Tex., produces this vision of beauty.



Mrs. E. M. Conley sends this photo of a dinner and entertainment given at the Exeter, Calif., grape packing house, by and for the grape packers at the close of the grape season.